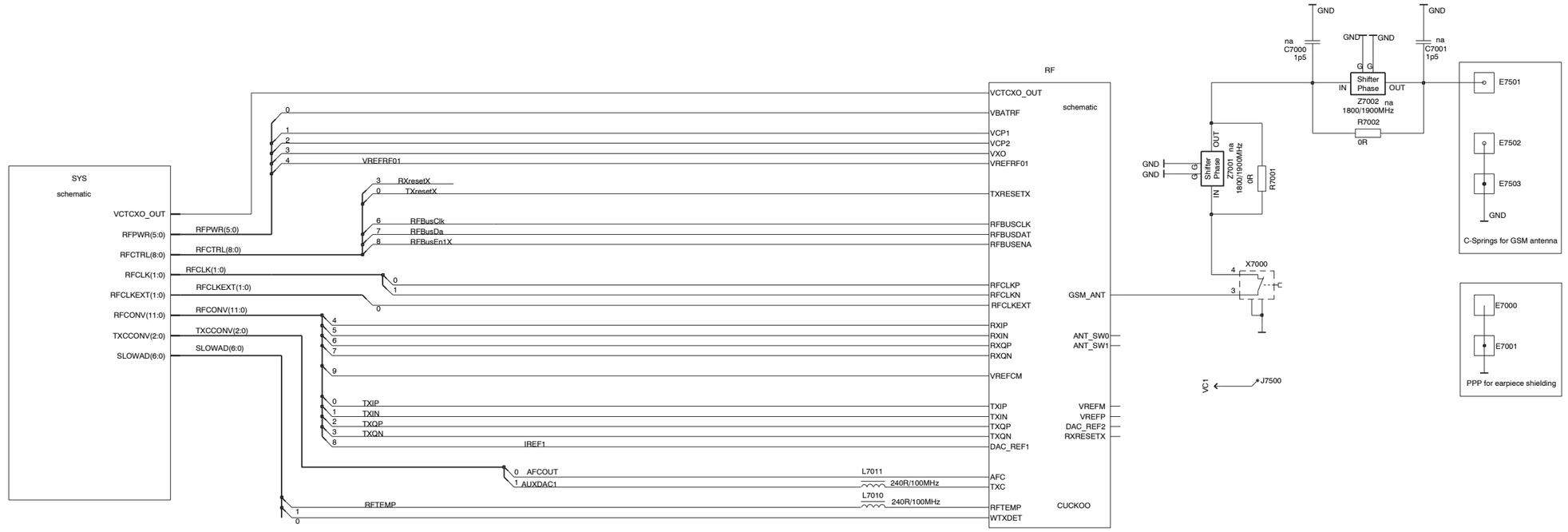
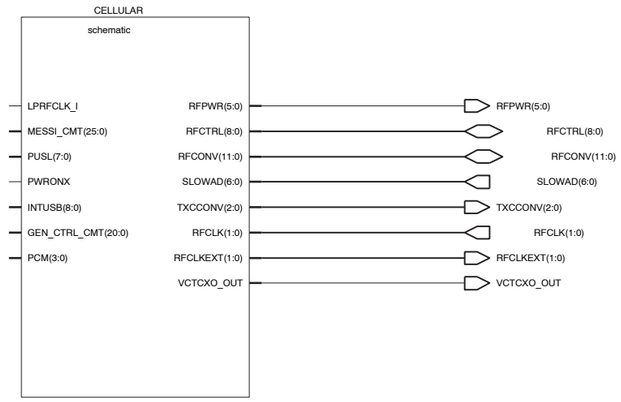
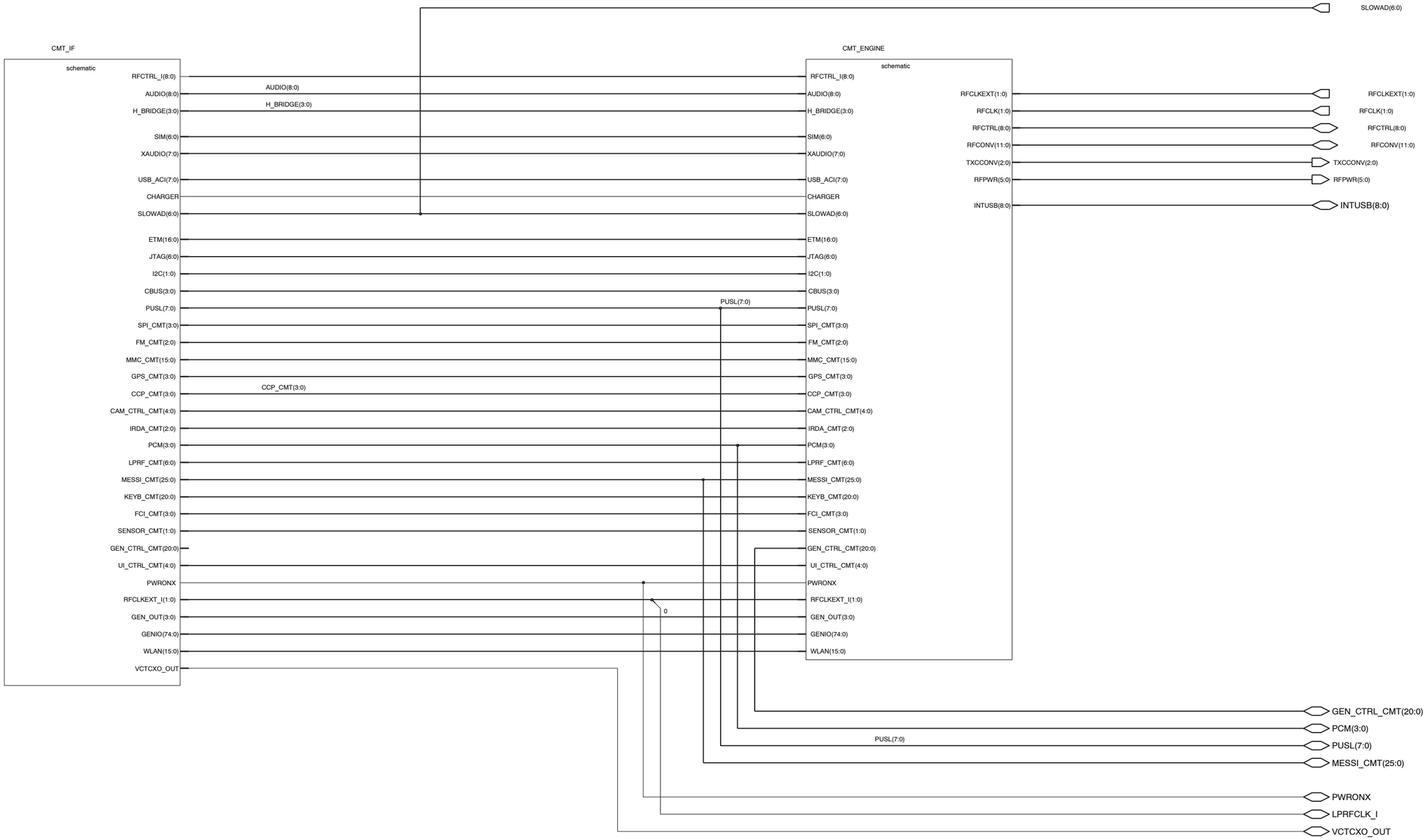
Page: Description
01: TOP SHEET
02: SYS
03: CELLULAR
04: CMT_IF
05: SYS AND BATT CONN
06: AV_USB
07: PROD_TEST_PATTERN
08: BATTERY_CONN
09: WLAN_BTFM
10: BTFM_RDS
11: WLAN_SIZE_4_0
12: UI
13: AUDIO
14: SIM
15: TEST_INTERFACE
16: MMC
17: CAMERA
18: CMT_ENGINE
19: POWER
20: RETU
21: TAHVO
22: DIGI
23: RAP
24: MEM_CMT
25: USB_CONN
26: RF_BB
27: GENIO_MUX
28: RF
29: WING_TOP (only in Wingboard schematic)

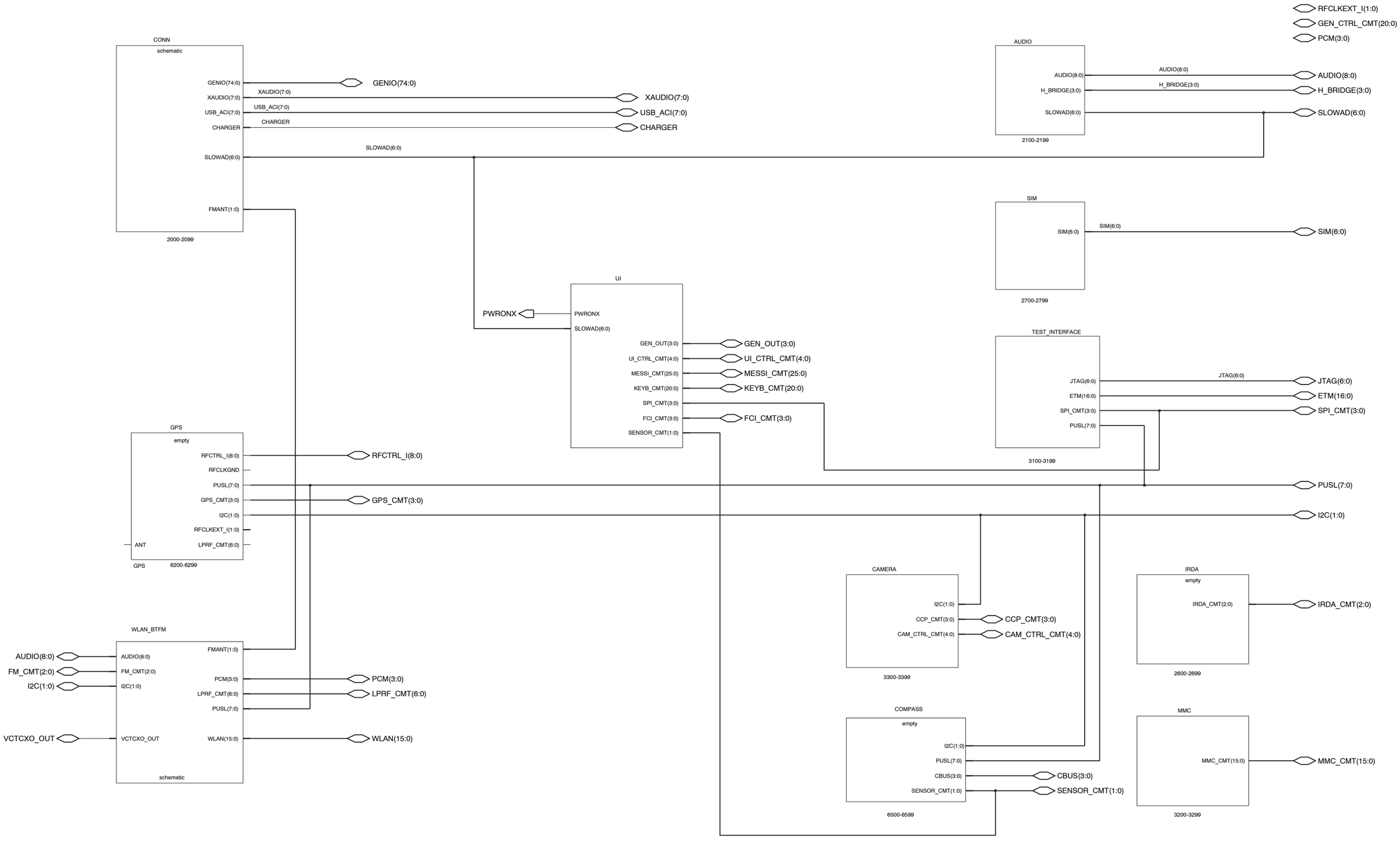


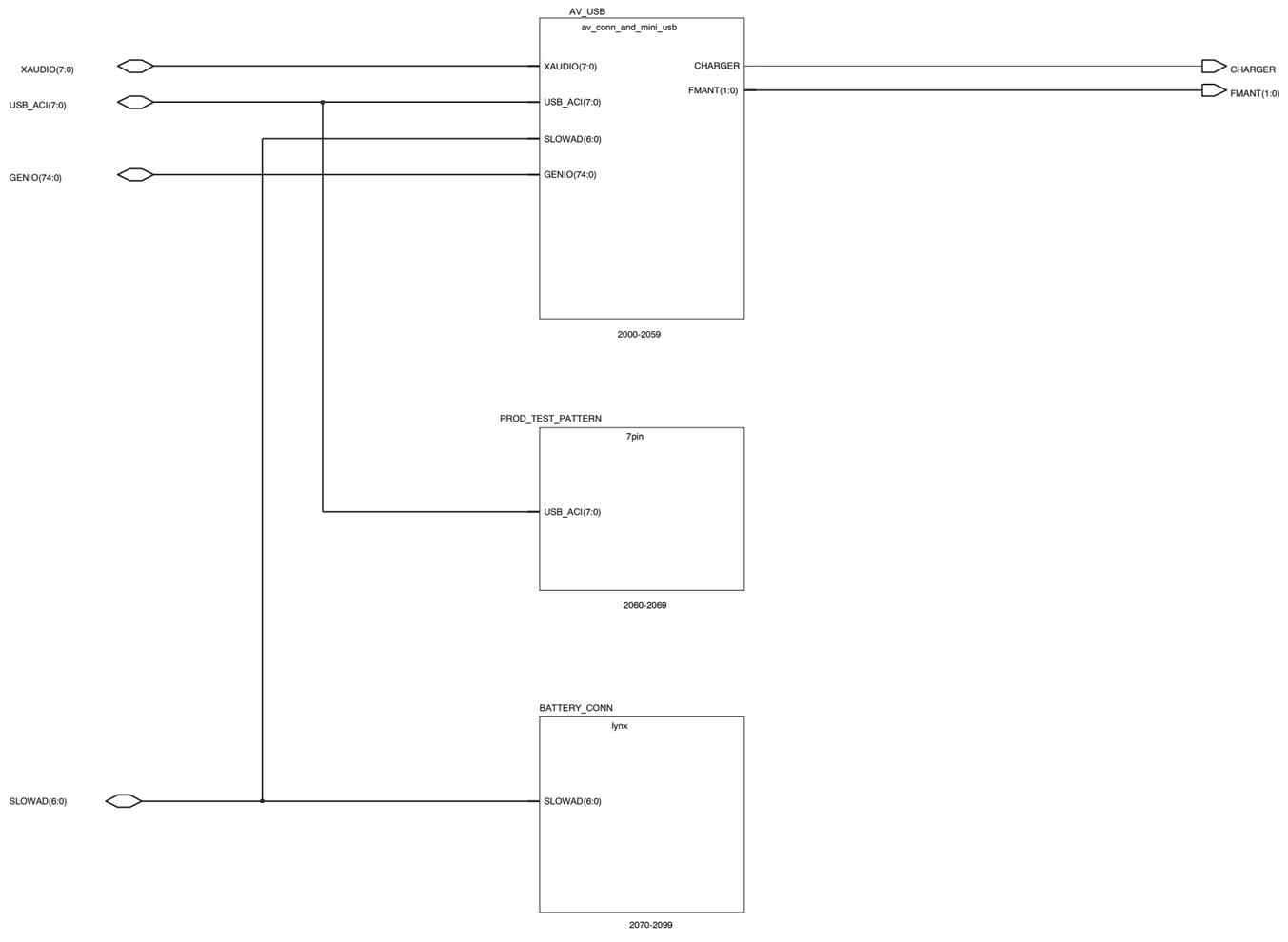

J1000 → J1001

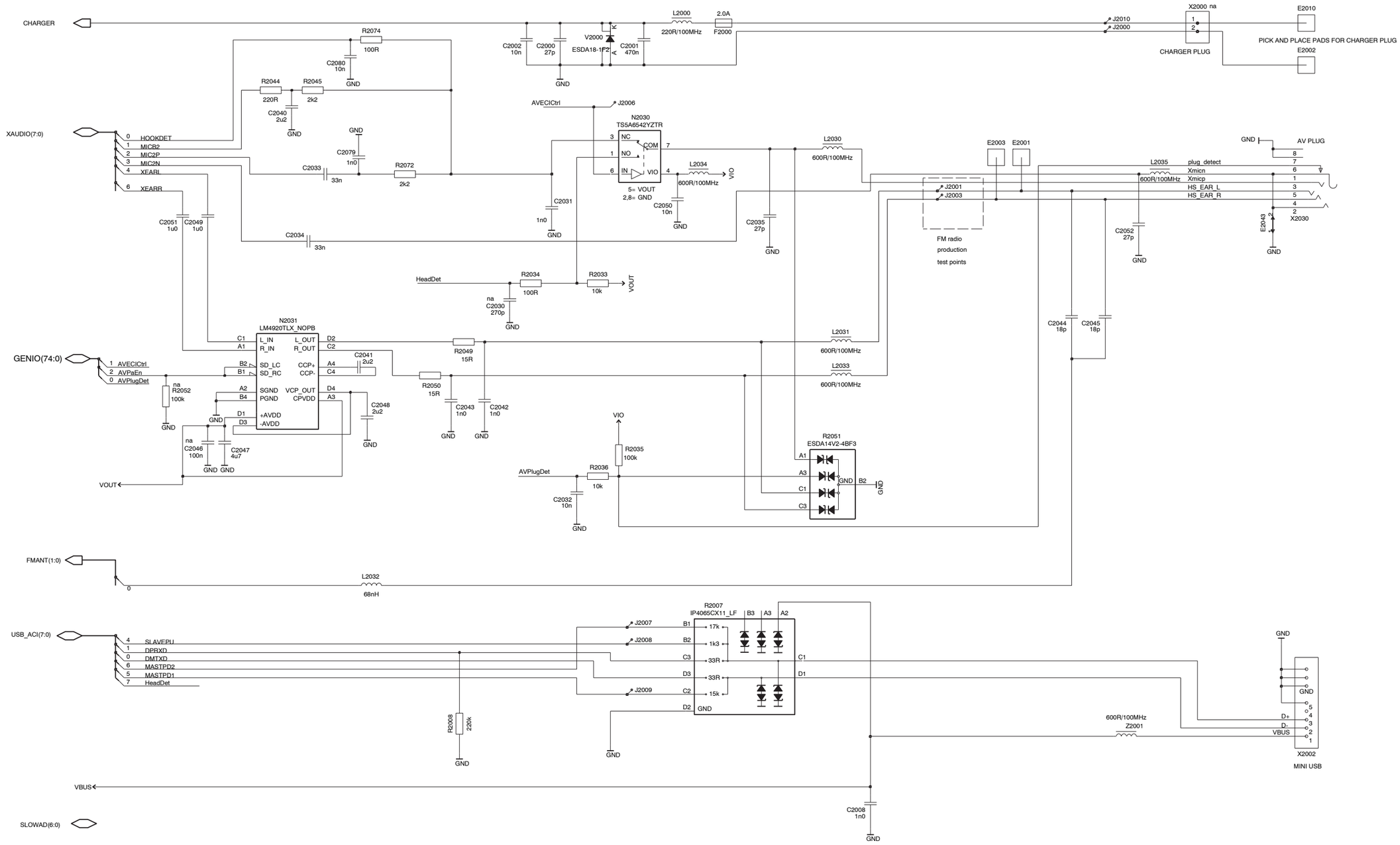
Carbon TestPattern


CELLULAR
schematic
LPRFCLK_I
MESSI_CMT(25:0)
PUSL(7:0)
PWRONX
INTUSB(8:0)
GEN_CTRL_CMT(20:0)
PCM(3:0)
RFPWR(5:0)
RFCTRL(8:0)
RFCONV(11:0)
SLOWAD(6:0)
TXCCONV(2:0)
RFCLK(1:0)
RFCLKEXT(1:0)
VCTCXO_OUT
RFPWR(5:0)
RFCTRL(8:0)
RFCONV(11:0)
SLOWAD(6:0)
TXCCONV(2:0)
RFCLK(1:0)
RFCLKEXT(1:0)
VCTCXO_OUT

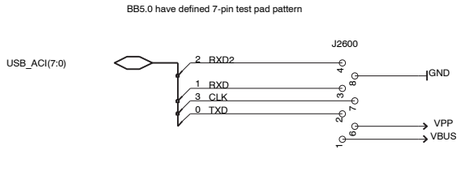

CMT_IF
schematic
RFCTRL_I(8:0)
AUDIO(8:0)
H_BRIDGE(3:0)
SIM(6:0)
XAUDIO(7:0)
USB_ACI(7:0)
CHARGER
SLOWAD(6:0)
ETM(16:0)
JTAG(6:0)
I2C(1:0)
CBUS(3:0)
PUSL(7:0)
SPI_CMT(3:0)
FM_CMT(2:0)
MMC_CMT(15:0)
GPS_CMT(3:0)
CCP_CMT(3:0)
CAM_CTRL_CMT(4:0)
IRDA_CMT(2:0)
PCM(3:0)
LPRF_CMT(6:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
FCI_CMT(3:0)
SENSOR_CMT(1:0)
GEN_CTRL_CMT(20:0)
UI_CTRL_CMT(4:0)
PWRONX
RFCLKEXT_I(1:0)
GEN_OUT(3:0)
GENIO(74:0)
WLAN(15:0)
VCTCXO_OUT
CMT_ENGINE
schematic
RFCLKEXT(1:0)
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(2:0)
RFPWR(5:0)
INTUSB(8:0)
SLOWAD(6:0)
RFCLKEXT(1:0)
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(2:0)
RFPWR(5:0)
INTUSB(8:0)
GEN_CTRL_CMT(20:0)
PCM(3:0)
PUSL(7:0)
MESSI_CMT(25:0)
PWRONX
LPRFCLK_I
VCTCXO_OUT
0

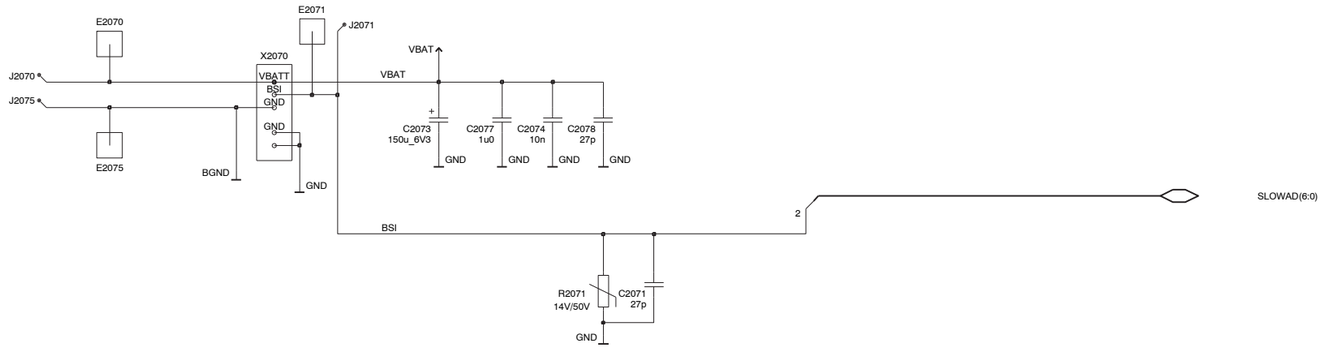

RFCLKEXT_I(1:0)
GEN_CTRL_CMT(20:0)
PCM(3:0)
CONN
schematic
GENIO(74:0)
XAUDIO(7:0)
USB_ACI(7:0)
CHARGER
SLOWAD(6:0)
FMANT(1:0)
2000-2099
AUDIO
AUDIO(8:0)
H_BRIDGE(3:0)
SLOWAD(6:0)
2100-2199
SIM
SIM(6:0)
2700-2799
UI
PWRONX
SLOWAD(6:0)
GEN_OUT(3:0)
UI_CTRL_CMT(4:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
SENSOR_CMT(1:0)
TEST_INTERFACE
JTAG(6:0)
ETM(16:0)
SPI_CMT(3:0)
PUSL(7:0)
3100-3199
GPS
empty
RFCTRL_I(8:0)
RFCLKGND
PUSL(7:0)
GPS_CMT(3:0)
I2C(1:0)
RFCLKEXT_I(1:0)
ANT
LPRF_CMT(6:0)
GPS
6200-6299
CAMERA
I2C(1:0)
CCP_CMT(3:0)
CAM_CTRL_CMT(4:0)
3300-3399
IRDA
empty
IRDA_CMT(2:0)
2600-2699
WLAN_BTFM
AUDIO(8:0)
FM_CMT(2:0)
I2C(1:0)
FMANT(1:0)
PCM(3:0)
LPRF_CMT(6:0)
PUSL(7:0)
VCTCXO_OUT
WLAN(15:0)
schematic
COMPASS
empty
I2C(1:0)
PUSL(7:0)
CBUS(3:0)
SENSOR_CMT(1:0)
6500-6599
MMC
MMC_CMT(15:0)
3200-3299

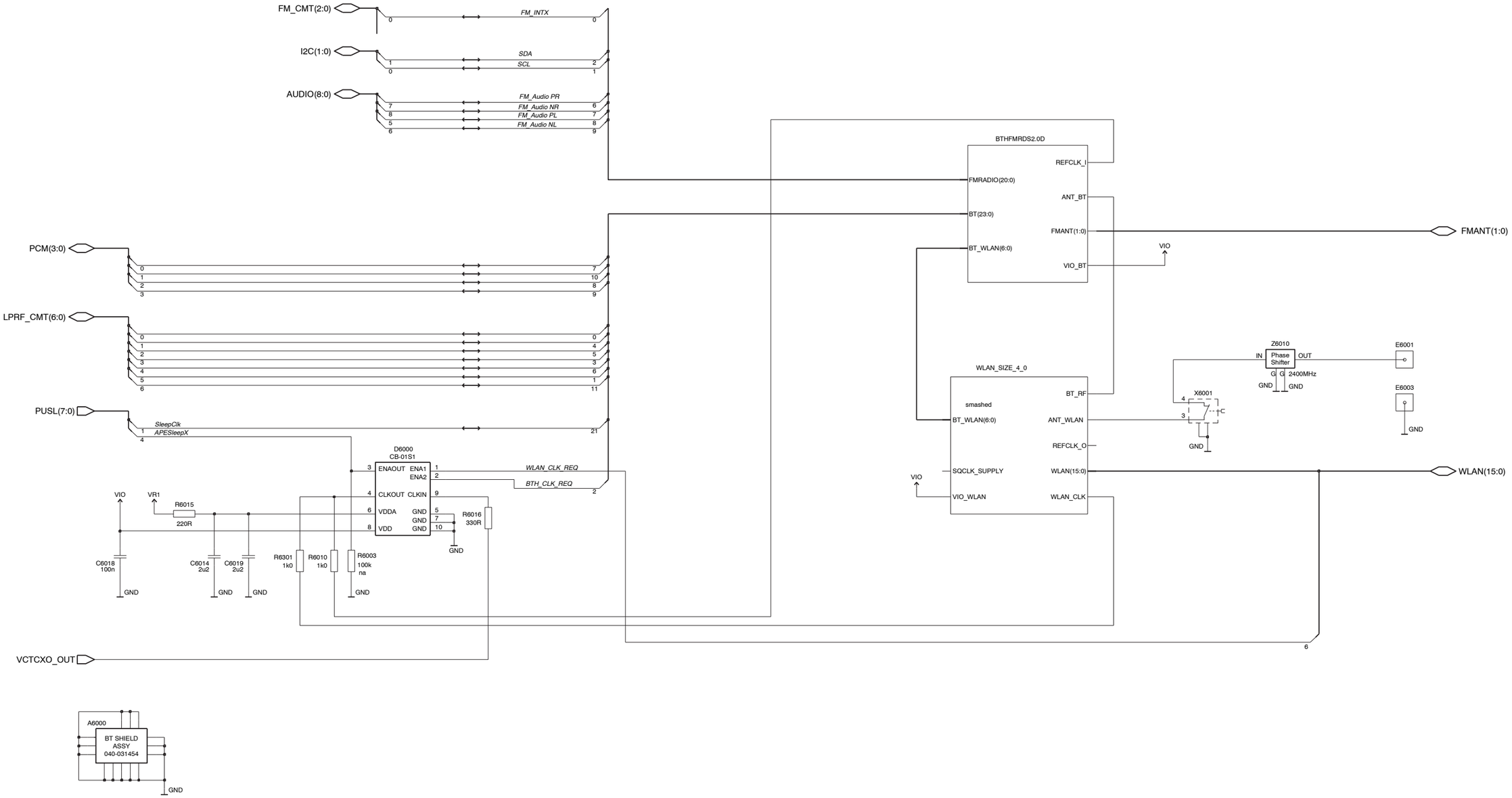

AV_USB
av_conn_and_mini_usb
XAUDIO(7:0)
USB_ACI(7:0)
GENIO(74:0)
XAUDIO(7:0)
USB_ACI(7:0)
SLOWAD(6:0)
GENIO(74:0)
CHARGER
FMANT(1:0)
CHARGER
FMANT(1:0)
2000-2059
PROD_TEST_PATTERN
7pin
USB_ACI(7:0)
2060-2069
BATTERY_CONN
lynx
SLOWAD(6:0)
SLOWAD(6:0)
2070-2099

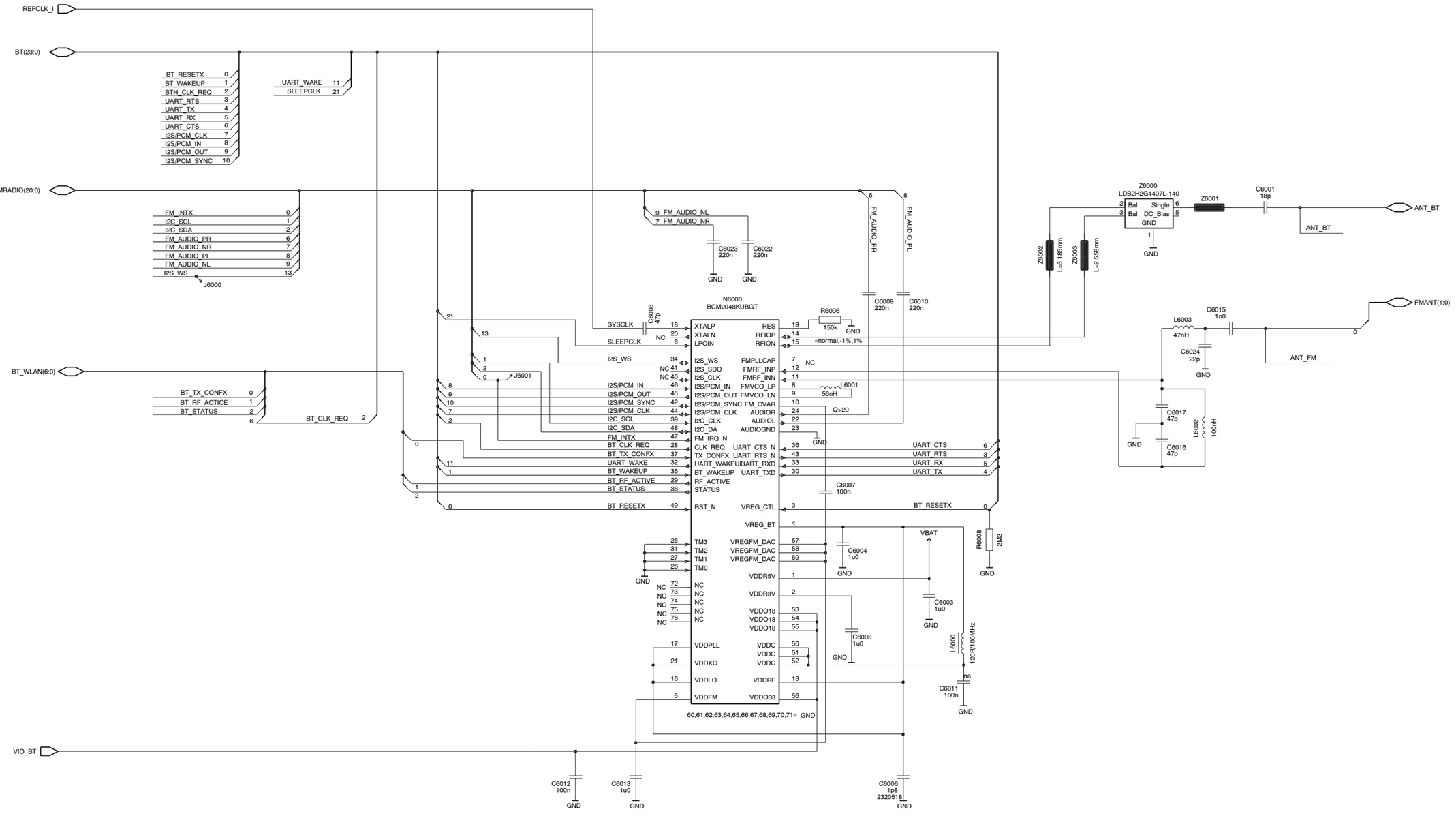

CHARGER
R2074
100R
C2080
10n
GND
C2002
10n
C2000
27p
V2000
ESDA18-1F2
K
A
C2001
470n
L2000
220R/100MHz
2.0A
F2000
J2010
J2000
X2000 na
CHARGER PLUG
E2010
PICK AND PLACE PADS FOR CHARGER PLUG
E2002
R2044
220R
R2045
2k2
C2040
2u2
AVECICtrl
J2006
N2030
TS5A6542YZTR
NC
NO
IN
COM
VIO
5= VOUT
2,8= GND
L2034
600R/100MHz
VIO
C2050
10n
L2030
600R/100MHz
E2003
E2001
XAUDIO(7:0)
0 HOOKDET
1 MICB2
2 MIC2P
3 MIC2N
4 XEARL
6 XEARR
C2079
1n0
C2033
33n
R2072
2k2
C2031
1n0
C2035
27p
C2051
1u0
C2049
1u0
C2034
33n
J2001
J2003
FM radio
production
test points
L2035
600R/100MHz
plug_detect
Xmicn
Xmicp
HS_EAR_L
HS_EAR_R
GND
AV PLUG
C2052
27p
E2043
X2030
HeadDet
R2034
100R
R2033
10k
VOUT
na
C2030
270p
N2031
LM4920TLX_NOPB
L_IN
R_IN
L_OUT
R_OUT
SD_LC
SD_RC
CCP+
CCP-
SGND
PGND
VCP_OUT
CPVDD
+AVDD
-AVDD
C2041
2u2
R2049
15R
L2031
600R/100MHz
L2033
600R/100MHz
C2044
18p
C2045
18p
GENIO(74:0)
1 AVECICtrl
2 AVPaEn
0 AVPlugDet
na
R2052
100k
R2050
15R
C2043
1n0
C2042
1n0
C2048
2u2
na
C2046
100n
C2047
4u7
VOUT
VIO
R2035
100k
AVPlugDet
R2036
10k
C2032
10n
R2051
ESDA14V2-4BF3
A1
A3
C1
C3
GND
B2
FMANT(1:0)
0
L2032
68nH
USB_ACI(7:0)
4 SLAVEPU
1 DPRXD
0 DMTXD
6 MASTPD2
5 MASTPD1
7 HeadDet
R2007
IP4065CX11_LF
B1
B2
C3
D3
C2
D2
B3
A3
A2
C1
D1
17k
1k3
33R
33R
15k
J2007
J2008
J2009
R2008
220k
600R/100MHz
Z2001
D+
D-
VBUS
X2002
MINI USB
VBUS
C2008
1n0
SLOWAD(6:0)

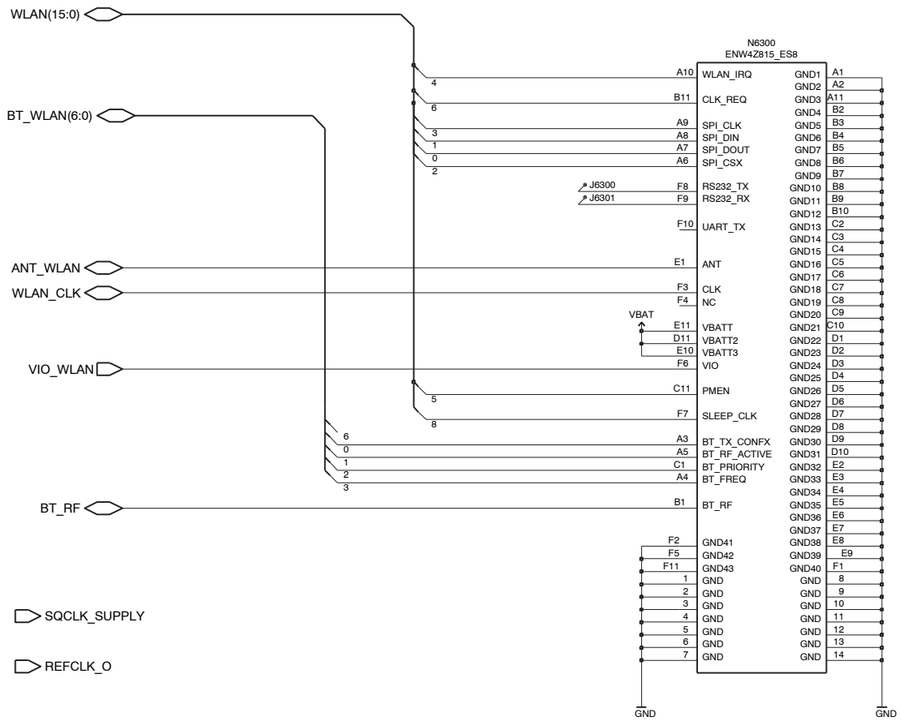
Traceability pad
X2060
1
pa
GND


BB5.0 have defined 7-pin test pad pattern
J2600
USB_ACI(7:0)
2 RXD2
1 RXD
3 CLK
0 TXD
4
8
3
7
2
6
1
5
GND
VPP
VBUS

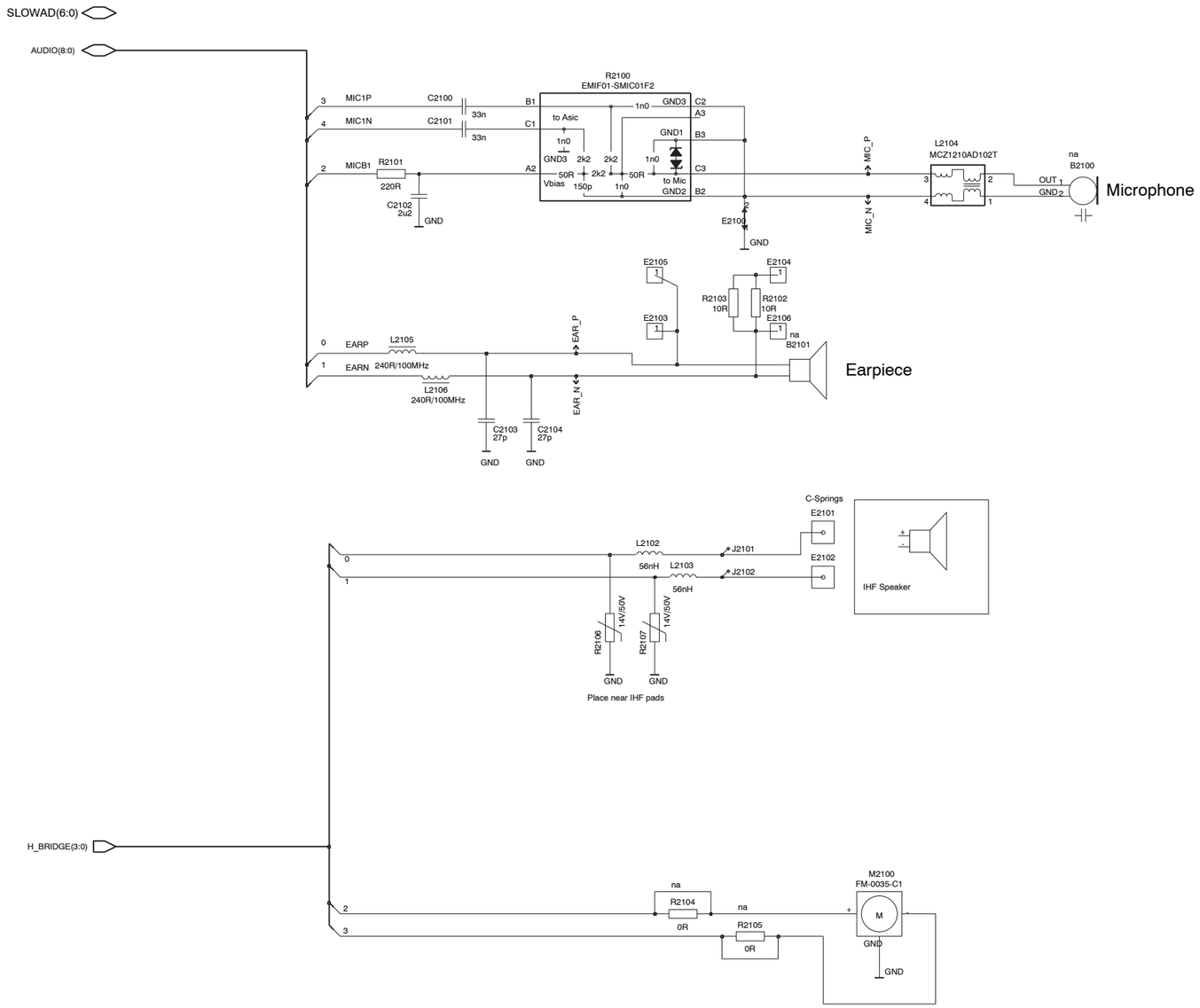

E2070
E2071
J2071
X2070
VBAT
J2070
VBATT
VBAT
J2075
BSI
GND
GND
C2073
150u_6V3
C2077
1u0
C2074
10n
C2078
27p
GND
GND
GND
GND
E2075
BGND
GND
2
SLOWAD(6:0)
BSI
R2071
14V/50V
C2071
27p
GND

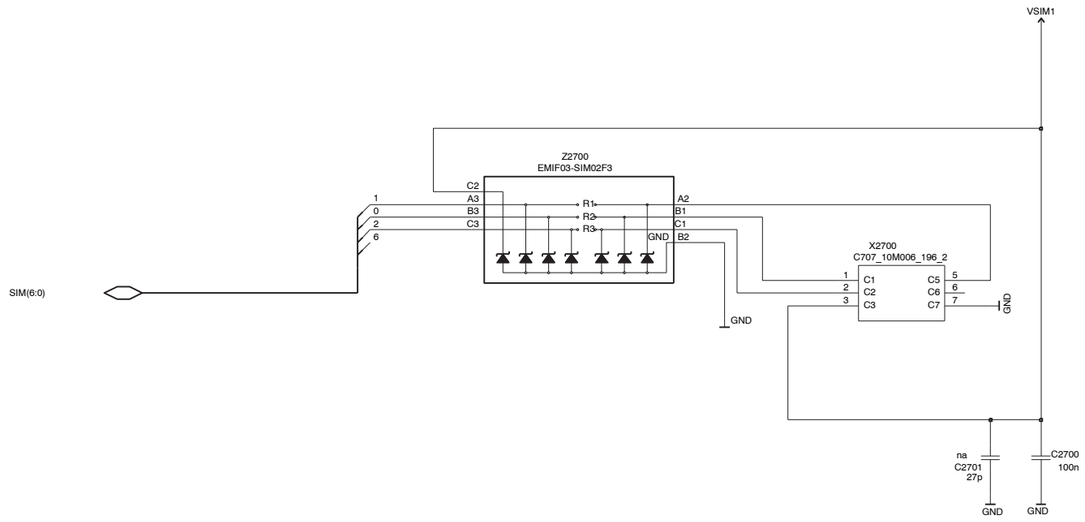

FM_CMT(2:0)
FM_INTX
I2C(1:0)
SDA
SCL
AUDIO(8:0)
FM_Audio PR
FM_Audio NR
FM_Audio PL
FM_Audio NL
PCM(3:0)
LPRF_CMT(6:0)
PUSL(7:0)
SleepClk
APESleepX
D6000
CB-01S1
ENAOUT
ENA1
ENA2
CLKOUT
CLKIN
VDDA
VDD
GND
WLAN_CLK_REQ
BTH_CLK_REQ
VIO
VR1
R6015
220R
R6016
330R
C6018
100n
C6014
2u2
C6019
2u2
R6301
1k0
R6010
1k0
R6003
100k
na
VCTCXO_OUT
A6000
BT SHIELD
ASSY
040-031454
BTHFMRDS2.0D
REFCLK_I
FMRADIO(20:0)
ANT_BT
BT(23:0)
FMANT(1:0)
BT_WLAN(6:0)
VIO_BT
FMANT(1:0)
WLAN_SIZE_4_0
smashed
BT_RF
ANT_WLAN
REFCLK_O
SQCLK_SUPPLY
WLAN(15:0)
VIO_WLAN
WLAN_CLK
WLAN(15:0)
Z6010
Phase
Shifter
IN
OUT
2400MHz
X6001
E6001
E6003

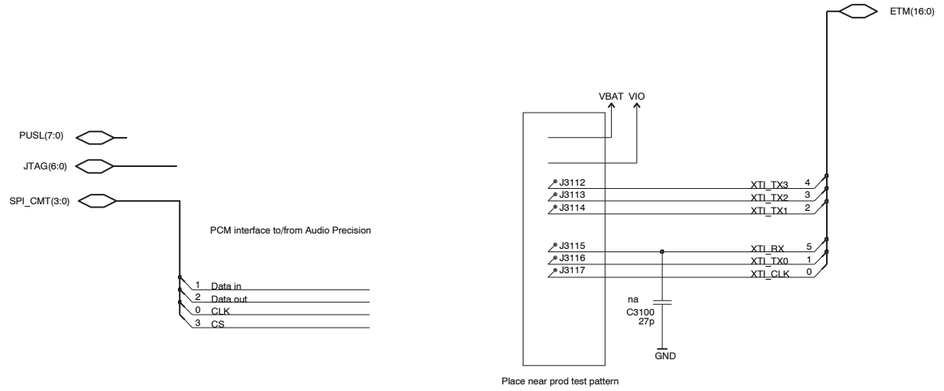

REFCLK_I
BT(23:0)
BT_RESETX 0
BT_WAKEUP 1
BTH_CLK_REQ 2
UART_RTS 3
UART_TX 4
UART_RX 5
UART_CTS 6
I2S/PCM_CLK 7
I2S/PCM_IN 8
I2S/PCM_OUT 9
I2S/PCM_SYNC 10
UART_WAKE 11
SLEEPCLK 21
FMRADIO(20:0)
FM_INTX 0
I2C_SCL 1
I2C_SDA 2
FM_AUDIO_PR 6
FM_AUDIO_NR 7
FM_AUDIO_PL 8
FM_AUDIO_NL 9
I2S_WS 13
J6000
9 FM_AUDIO_NL
7 FM_AUDIO_NR
C6023 220n
C6022 220n
GND
6 FM_AUDIO_PR
8 FM_AUDIO_PL
C6009 220n
C6010 220n
N6000
BCM2048KUBGT
C6008 47p
SYSCLK 18
NC 20
SLEEPCLK 6
XTALP
XTALN
LPOIN
RES 19
RFIOP 14
RFION 15
R6006 150k
=normal,-1%,1%
I2S_WS 34
NC 41
NC 40
I2S/PCM_IN 46
I2S/PCM_OUT 45
I2S/PCM_SYNC 42
I2S/PCM_CLK 44
I2C_SCL 39
I2C_SDA 48
FM_INTX 47
BT_CLK_REQ 28
BT_TX_CONFX 37
UART_WAKE 32
BT_WAKEUP 35
BT_RF_ACTIVE 29
BT_STATUS 38
BT_RESETX 49
I2S_WS
I2S_SDO
I2S_CLK
I2S/PCM_IN
I2S/PCM_OUT
I2S/PCM_SYNC
I2S/PCM_CLK
I2C_CLK
I2C_DA
FM_IRQ_N
CLK_REQ
TX_CONFX
UART_WAKEUP
BT_WAKEUP
RF_ACTIVE
STATUS
RST_N
FMPLLCAP 7
FMRF_INP 12
FMRF_INN 11
FMVCO_LP 8
FMVCO_LN 9
FM_CVAR 10
AUDIOR 24
AUDIOL 22
AUDIOGND 23
UART_CTS_N 36
UART_RTS_N 43
UART_RXD 33
UART_TXD 30
VREG_CTL 3
VREG_BT 4
TM3 25
TM2 31
TM1 27
TM0 26
VREGFM_DAC 57
VREGFM_DAC 58
VREGFM_DAC 59
VDDR5V 1
VDDR3V 2
VDDO18 53
VDDO18 54
VDDO18 55
VDDPLL 17
VDDXO 21
VDDLO 16
VDDFM 5
VDDC 50
VDDC 51
VDDC 52
VDDRF 13
VDDO33 56
NC 72
NC 73
NC 74
NC 75
NC 76
60,61,62,63,64,65,66,67,68,69,70,71=
L6001 56nH
Q>20
UART_CTS 6
UART_RTS 3
UART_RX 5
UART_TX 4
C6007 100n
C6004 1u0
C6005 1u0
C6003 1u0
C6011 100n
C6012 100n
C6013 1u0
C6006 1p8 2320518
VBAT
R6008 2M2
L6000 120R/100MHz
BT_WLAN(6:0)
BT_TX_CONFX 0
BT_RF_ACTICE 1
BT_STATUS 2
BT_CLK_REQ 2
J6001
VIO_BT
Z6000
LDB2H2G4407L-140
Bal Single
Bal DC_Bias
GND
Z6001
C6001 18p
ANT_BT
Z6002 L=3.186mm
Z6003 L=2.558mm
C6015 1n0
L6003 47nH
C6024 22p
FMANT(1:0)
ANT_FM
C6017 47p
C6016 47p
L6002 100nH

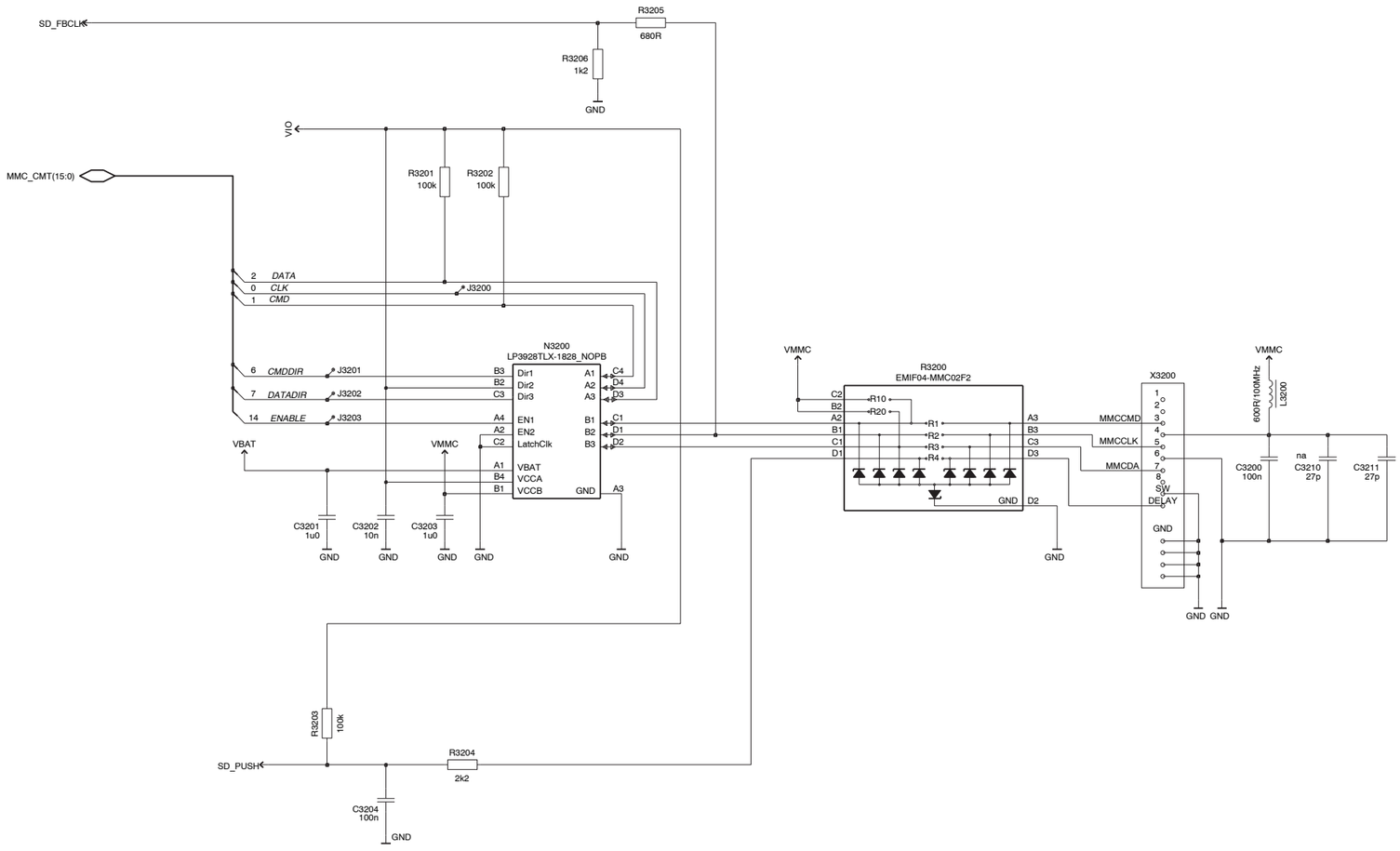

WLAN(15:0)
BT_WLAN(6:0)
ANT_WLAN
WLAN_CLK
VIO_WLAN
BT_RF
SQCLK_SUPPLY
REFCLK_O
N6300
ENW4ZB15_ES8
A10 WLAN_IRQ
B11 CLK_REQ
A9 SPI_CLK
A8 SPI_DIN
A7 SPI_DOUT
A6 SPI_CSX
J6300
J6301
F8 RS232_TX
F9 RS232_RX
F10 UART_TX
E1 ANT
F3 CLK
F4 NC
VBAT
E11 VBATT
D11 VBATT2
E10 VBATT3
F6 VIO
C11 PMEN
F7 SLEEP_CLK
A3 BT_TX_CONFX
A5 BT_RF_ACTIVE
C1 BT_PRIORITY
A4 BT_FREQ
B1 BT_RF
F2 GND41
F5 GND42
F11 GND43
1 GND
2 GND
3 GND
4 GND
5 GND
6 GND
7 GND
GND1 A1
GND2 A2
GND3 A11
GND4 B2
GND5 B3
GND6 B4
GND7 B5
GND8 B6
GND9 B7
GND10 B8
GND11 B9
GND12 B10
GND13 C2
GND14 C3
GND15 C4
GND16 C5
GND17 C6
GND18 C7
GND19 C8
GND20 C9
GND21 C10
GND22 D1
GND23 D2
GND24 D3
GND25 D4
GND26 D5
GND27 D6
GND28 D7
GND29 D8
GND30 D9
GND31 D10
GND32 E2
GND33 E3
GND34 E4
GND35 E5
GND36 E6
GND37 E7
GND38 E8
GND39 E9
GND40 F1
GND 8
GND 9
GND 10
GND 11
GND 12
GND 13
GND 14
GND
GND

SENSOR_CMT(1:0)
FCI_CMT(3:0)
SPI_CMT(3:0)
UI_CTRL_CMT(4:0)
KEYB_CMT(20:0)
SLOWAD(6:0)
3 BTEMP
BTEMP Resistor
R2070 47k
GND
PWRONX
R2406 27k
PWRON
J2421
L2405 600R/100MHz
C2403 47p
GND
WINGON
Wing
S2403
Power On
GND
Vol +
S2402
Vol -
S2401
Wing
VOL_NEUTRAL
VOL_MINUS
VOL_PLUS
Z2400
EMIF10-LCD02F3
Output1 Output2 Output3 Output4 Output5 Output6 Output7 Output8 Output9 Output10
Input1 Input2 Input3 Input4 Input5 Input6 Input7 Input8 Input9 Input10
COL1 ROW5 COL3 COL2 COL0 ROW2 ROW4 ROW0 ROW1 ROW3
J2402 J2409 J2406 J2401 J2408 J2404 J2410 J2407 J2405 J2403
GND GND GND GND
J2411 J2412
COL_BUS(3:0)
ROW_BUS(5:0)
S2400
UP
RIGHT
LEFT
DOWN
RightSK S2405
LeftSK S2407
End S2419
Send S2406
Vol- S2409 S2410 S2413
S2412 S2414 S2418
Vol+ S2417 S2408 S2411
# S2415 0 S2420 * S2416
ROW0 ROW1 ROW2 ROW3 ROW4 ROW5
COL3 COL2 COL1 COL0
E2401
E2402
E2403
E2405
E2506
E2407
GND
VBAT
V2410 1PS79SB31
R2424 15R
PEMT1 V2411-1
PEMT1 V2411-2
R2425 1k0
V2412 19-218_Y3C-AM2P1VY_3T
V2413 19-218_Y3C-AM2P1VY_3T
J2430
J2431
100R R2427
R2426 100R
GND
V2402-1 EMH25T2R
4k7
47k
EFFECT_LED
VLEDOUT1
Place near N3301
na C2413 27p
240R/100MHz L2403
N2401 PEMD9
na R2422 0R
PWMTAHVO
MESSI_CMT(25:0)
Z2401
EMIF07-LCD02F3
Z2402
X1001
LED_1- LED_2- VDDI GND WRX D0 GND D2 D4 D6 CSX RESX TE D7 D5 GND D3 D1 DCX RDX GND VDD LED_2+ LED_1+
J2429
SETCURR1
na C2405 100n
R2421 33R
Place near N2301
L2402 600R/100MHz C2416 100n C2415 27p VIO
L2404 600R/100MHz C2417 100n C2418 27p VAUX
J2428
na C2404 4n7
C2414 27p
R2423 22k
R2407 47R
PEMT1 V2401-2
PEMT1 V2401-1
na R2430 22k
R2408 22k
V2402-2 EMH25T2R
4k7
47k
GEN_OUT(3:0)
V2405 CL-480S-WHS-D-TS
V2406 CL-480S-WHS-D-TS
V2409 CL-480S-WHS-D-TS
V2407 CL-480S-WHS-D-TS
470R R2418 J2418
470R R2419 J2419
A2400
FLEX SHIELD FRAME
040-031886

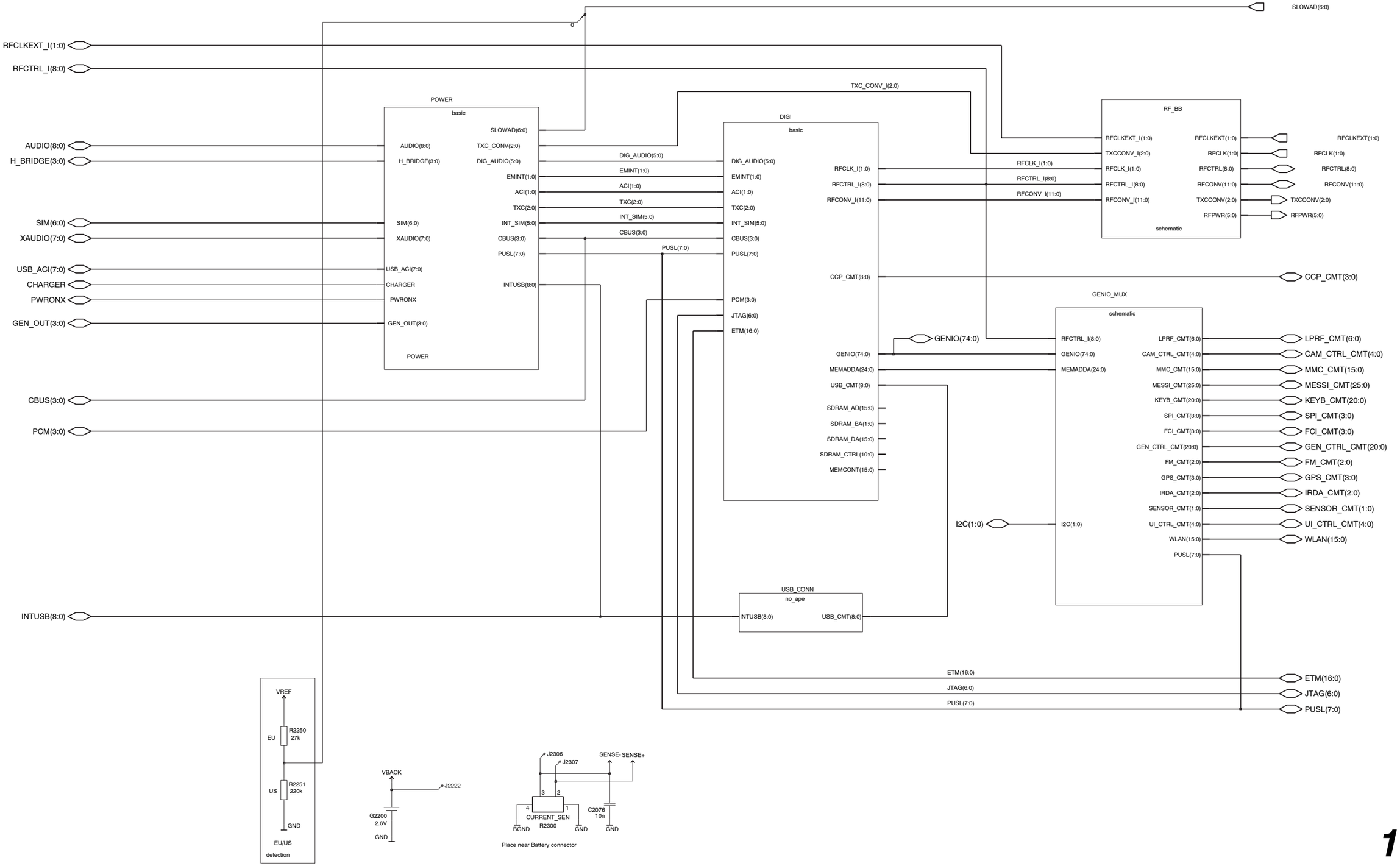

SLOWAD(6:0)
AUDIO(8:0)
R2100
EMIF01-SMIC01F2
3
MIC1P
C2100
33n
B1
4
MIC1N
C2101
33n
C1
2
MICB1
R2101
220R
C2102
2u2
GND
A2
to Asic
1n0
GND3
2k2
50R
Vbias
150p
GND3
C2
A3
GND1
B3
C3
B2
to Mic
GND2
MIC_P
MIC_N
L2104
MCZ1210AD102T
OUT 1
GND 2
na
B2100
Microphone
E2100
GND
E2105
E2104
R2103
10R
R2102
10R
E2103
E2106
na
B2101
0
EARP
L2105
240R/100MHz
1
EARN
L2106
240R/100MHz
EAR_P
EAR_N
C2103
27p
C2104
27p
GND
GND
Earpiece
C-Springs
E2101
E2102
L2102
56nH
L2103
56nH
J2101
J2102
0
1
R2106
14V/50V
R2107
14V/50V
GND
GND
Place near IHF pads
IHF Speaker
H_BRIDGE(3:0)
2
3
na
R2104
0R
na
R2105
0R
M2100
FM-0035-C1
M
GND
GND

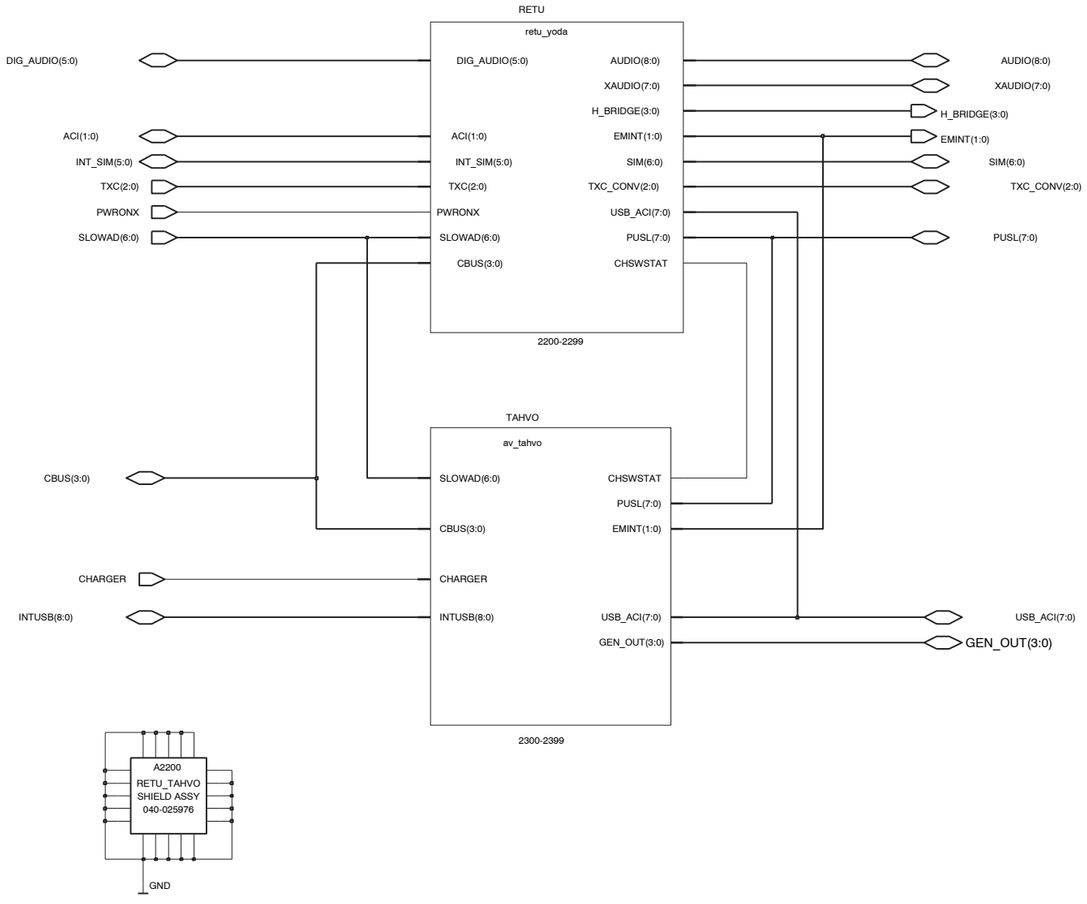

VSIM1
Z2700
EMIF03-SIM02F3
C2
A3
B3
C3
R1
R2
R3
A2
B1
C1
B2
GND
1
0
2
6
SIM(6:0)
GND
X2700
C707_10M006_196_2
C1
C2
C3
C5
C6
C7
1
2
3
5
6
7
GND
na
C2701
27p
C2700
100n
GND
GND

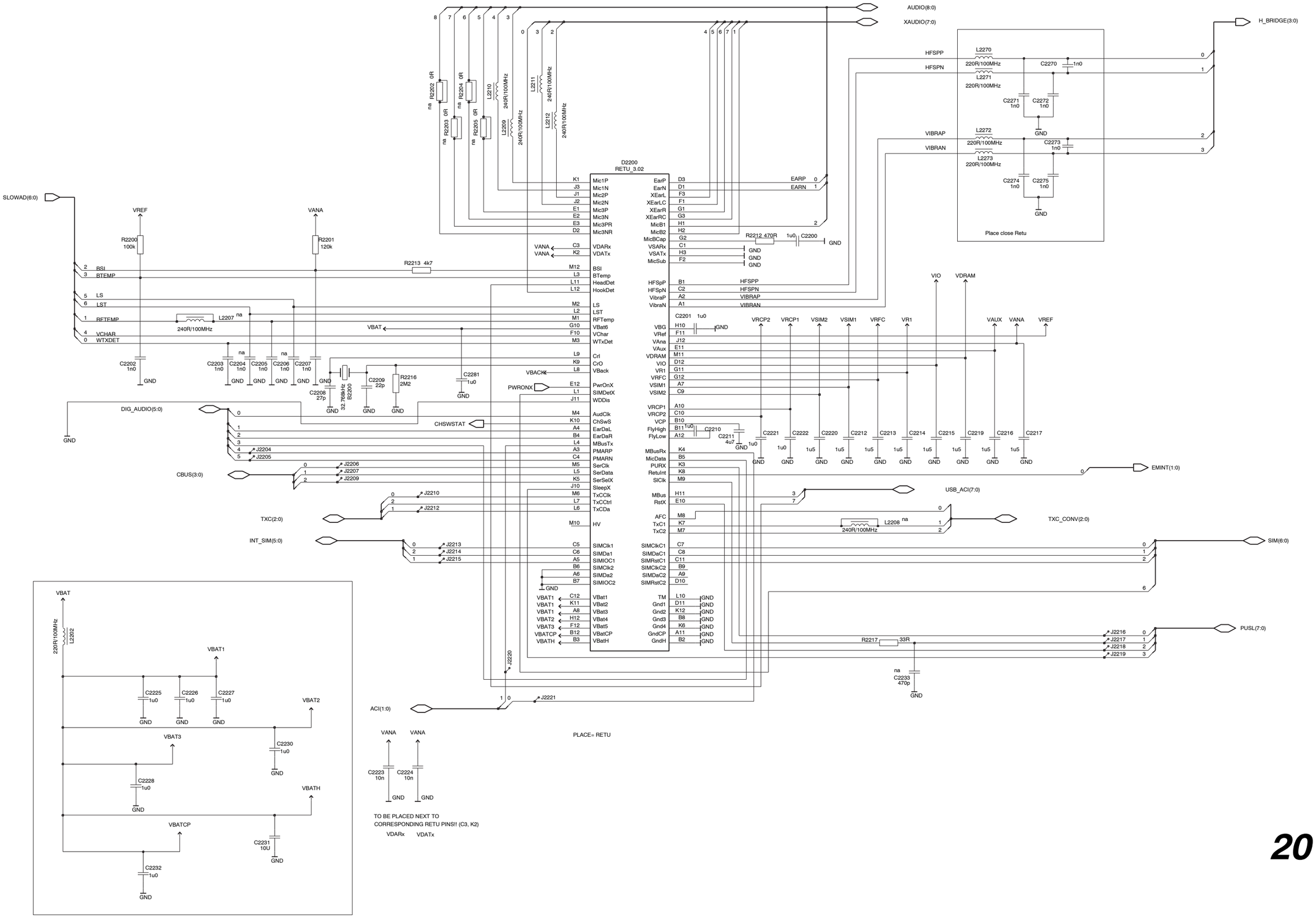

PUSL(7:0)
JTAG(6:0)
SPI_CMT(3:0)
PCM interface to/from Audio Precision
1 Data in
2 Data out
0 CLK
3 CS
ETM(16:0)
VBAT VIO
J3112
J3113
J3114
J3115
J3116
J3117
XTI_TX3 4
XTI_TX2 3
XTI_TX1 2
XTI_RX 5
XTI_TX0 1
XTI_CLK 0
na
C3100
27p
GND
Place near prod test pattern

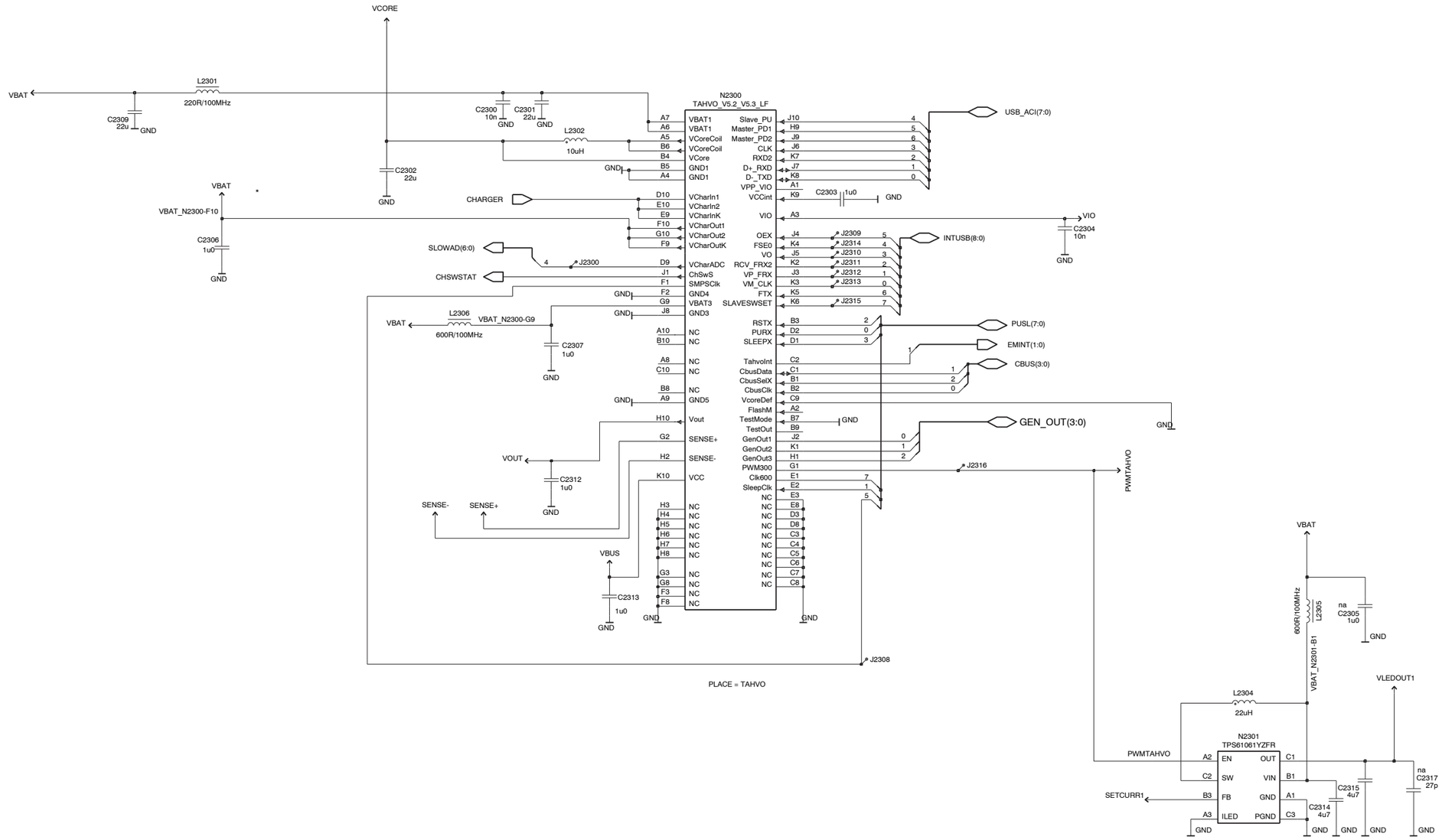

SD_FBCLK
R3205
680R
R3206
1k2
GND
VIO
MMC_CMT(15:0)
R3201
100k
R3202
100k
2 DATA
0 CLK
1 CMD
J3200
N3200
LP3928TLX-1828_NOPB
6 CMDDIR
J3201
7 DATADIR
J3202
14 ENABLE
J3203
B3 Dir1
B2 Dir2
C3 Dir3
A4 EN1
A2 EN2
C2 LatchClk
A1 VBAT
B4 VCCA
B1 VCCB
A1 C4
A2 D4
A3 D3
B1 C1
B2 D1
B3 D2
GND A3
VBAT
VMMC
C3201
1u0
C3202
10n
C3203
1u0
R3203
100k
SD_PUSH
R3204
2k2
C3204
100n
VMMC
R3200
EMIF04-MMC02F2
C2
B2
A2
B1
C1
D1
R10
R20
R1
R2
R3
R4
A3
B3
C3
D3
GND D2
MMCCMD
MMCCLK
MMCDA
X3200
1
2
3
4
5
6
7
8
SW
DELAY
GND
VMMC
60OR100MHz
L3200
C3200
100n
na
C3210
27p
C3211
27p
GND GND

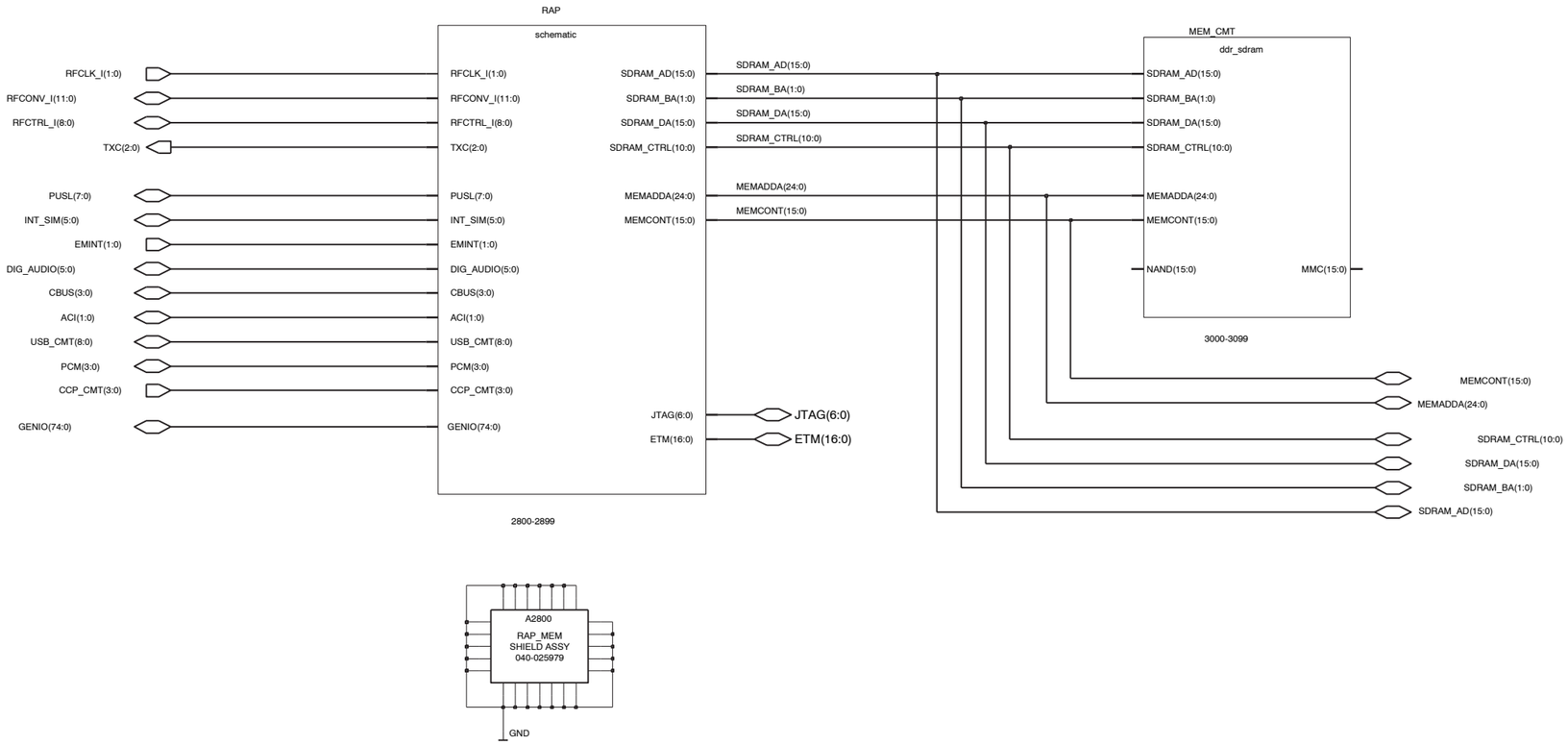
CAM_CTRL_CMT(4:0)
I2C(1:0)
J3302
J3301
J3300
GND
VDIG_CAM
R3300 4k7
R3301 4k7
D3300
STV0984N
PDN
LDO_EN
ADC_IN
RST
RST_DIR
SYSCLK
SSDA
SSCL
PDATA1P
PDATA1N
PCLK1P
PCLK1N
LDO_STBY
PDATA2P
PDATA2N
PCLK2P
PCLK2N
MSDA
MSCL
TMS_OCI
TMS
TCK
TDI
TDO
VANA
AGND
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
PIEZO1
PIEZO2
HCLKP
HCLKN
HDATAP
HDATAN
1V2_OUT
VDD1V2
TEST
VDD1V8
VDD1V8/2V8
VDD_PIEZO
VDD_GPIO
DC1V8
DC1V8/2V8
DC_GPIO
K8,A8,C1,J3,F3,H9,J6,E3,K6= GND
CCP_CMT(3:0)
C3305 4u7
C3304 10n
C3313 10n
C3314 10n
C3303 100n
X3300
VCAP
AGND
VANA
XSHUTDOWN
EXTCLK
CCISCL
CCISDA
DGND
CCPCLK_N
CCPCLK_P
VIO
CCPDATA_N
CCPDATA_P
CCPCLKN
CCPCLKP
CCPDATAN
CCPDATAP
C3302 220n
C3309 27p
C3301 100n
C3310 27p
C3300 100n
VANA_CAM
VDIG_CAM
Part is not suitable for dual pass SMD process
na R3306 100R
na R3307 100R
CAM_CTRL_CMT(4:0)
VBAT
L3304 600R/100MHz
N3300
LM3671TLX-1.82V_NOPB
U/U
Vin
GND
FB
EN
SW
L3303 2u2H
C3306 4u7
C3307 10u
VDIG_CAM
VBAT
0R R3305
na
C3115 100n
N3301
LP3985ITLX -2.8_NOPB
VEN
BYPASS
VIN
VOUT
C3116 10n
VANA_CAM
VAUX
L3301 600R/100MHz
C3308 1u0
A3300
HW_ACC ASSY 040-025020

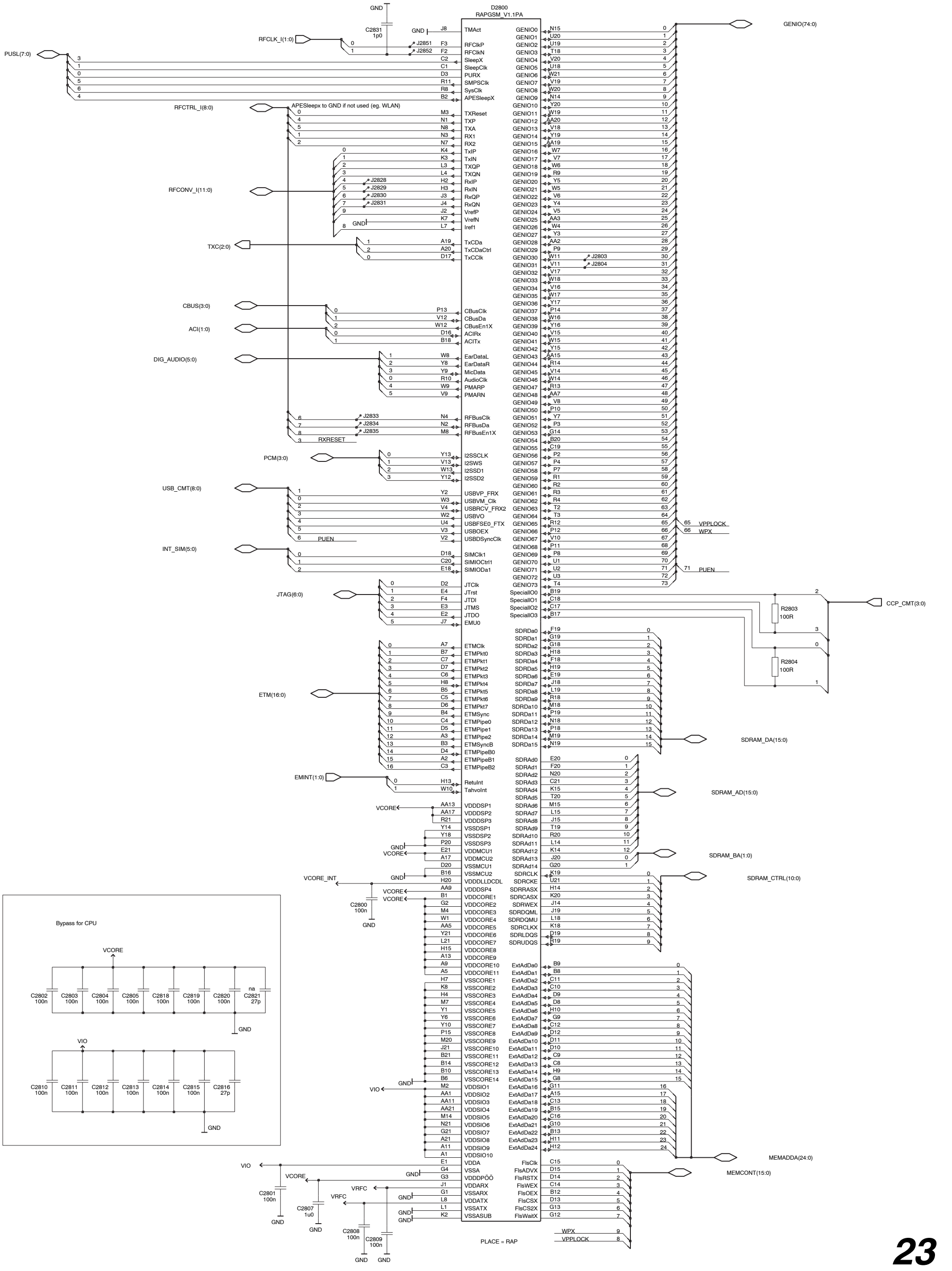

SLOWAD(6:0)
0
RFCLKEXT_I(1:0)
RFCTRL_I(8:0)
TXC_CONV_I(2:0)
POWER
basic
AUDIO(8:0)
H_BRIDGE(3:0)
SIM(6:0)
XAUDIO(7:0)
USB_ACI(7:0)
CHARGER
PWRONX
GEN_OUT(3:0)
SLOWAD(6:0)
TXC_CONV(2:0)
DIG_AUDIO(5:0)
EMINT(1:0)
ACI(1:0)
TXC(2:0)
INT_SIM(5:0)
CBUS(3:0)
PUSL(7:0)
INTUSB(8:0)
POWER
DIGI
basic
DIG_AUDIO(5:0)
EMINT(1:0)
ACI(1:0)
TXC(2:0)
INT_SIM(5:0)
CBUS(3:0)
PUSL(7:0)
PCM(3:0)
JTAG(6:0)
ETM(16:0)
RFCLK_I(1:0)
RFCTRL_I(8:0)
RFCONV_I(11:0)
CCP_CMT(3:0)
GENIO(74:0)
MEMADDA(24:0)
USB_CMT(8:0)
SDRAM_AD(15:0)
SDRAM_BA(1:0)
SDRAM_DA(15:0)
SDRAM_CTRL(10:0)
MEMCONT(15:0)
RF_BB
RFCLKEXT_I(1:0)
TXCCONV_I(2:0)
RFCLK_I(1:0)
RFCTRL_I(8:0)
RFCONV_I(11:0)
schematic
RFCLKEXT(1:0)
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(2:0)
RFPWR(5:0)
GENIO_MUX
schematic
RFCTRL_I(8:0)
GENIO(74:0)
MEMADDA(24:0)
I2C(1:0)
LPRF_CMT(6:0)
CAM_CTRL_CMT(4:0)
MMC_CMT(15:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
FM_CMT(2:0)
GPS_CMT(3:0)
IRDA_CMT(2:0)
SENSOR_CMT(1:0)
UI_CTRL_CMT(4:0)
WLAN(15:0)
PUSL(7:0)
USB_CONN
no_ape
INTUSB(8:0)
USB_CMT(8:0)
ETM(16:0)
JTAG(6:0)
PUSL(7:0)
VREF
EU
R2250
27k
US
R2251
220k
GND
EU/US
detection
VBACK
J2222
G2200
2.6V
GND
J2306
J2307
SENSE-
SENSE+
3
2
4
1
CURRENT_SEN
R2300
BGND
GND
C2076
10n
GND
Place near Battery connector

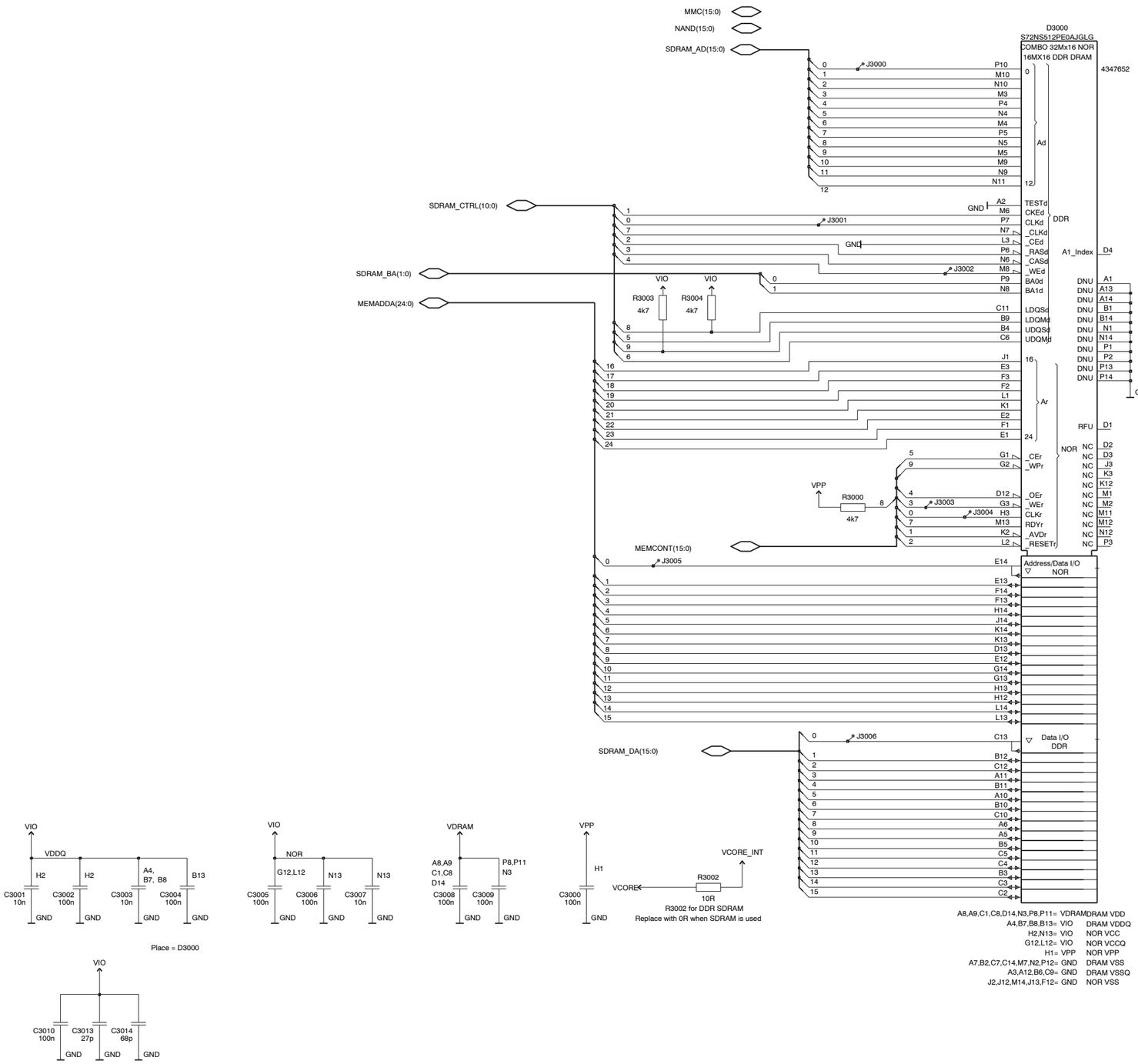

RETU
retu_yoda
DIG_AUDIO(5:0)
ACI(1:0)
INT_SIM(5:0)
TXC(2:0)
PWRONX
SLOWAD(6:0)
CBUS(3:0)
AUDIO(8:0)
XAUDIO(7:0)
H_BRIDGE(3:0)
EMINT(1:0)
SIM(6:0)
TXC_CONV(2:0)
USB_ACI(7:0)
PUSL(7:0)
CHSWSTAT
2200-2299
TAHVO
av_tahvo
CHARGER
INTUSB(8:0)
GEN_OUT(3:0)
2300-2399
A2200
RETU_TAHVO
SHIELD ASSY
040-025976
GND

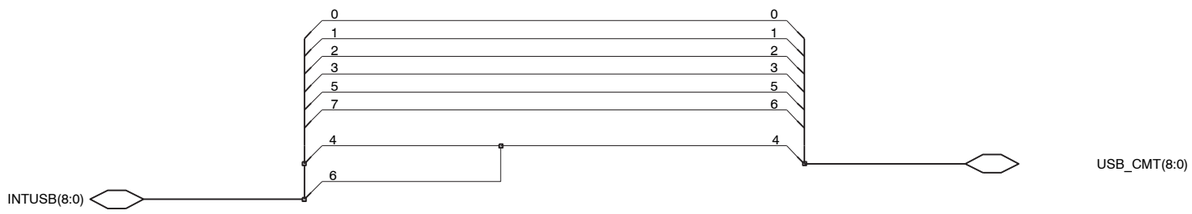

D2200
RETU_3.02
AUDIO(8:0)
XAUDIO(7:0)
H_BRIDGE(3:0)
HFSPP
HFSPN
VIBRAP
VIBRAN
L2270
L2271
L2272
L2273
220R/100MHz
C2270 1n0
C2271 1n0
C2272 1n0
C2273 1n0
C2274 1n0
C2275 1n0
GND
Place close Retu
SLOWAD(6:0)
VREF
VANA
R2200 100k
R2201 120k
R2213 4k7
BSI
BTEMP
LS
LST
RFTEMP
VCHAR
WTXDET
L2207 240R/100MHz
C2202 1n0
C2203 1n0
C2204 1n0
C2205 1n0
C2206 1n0
C2207 1n0
C2208 27p
32.768kHz B2200
C2209 22p
R2216 2M2
C2281 1u0
VBAT
VBACK
PWRONX
DIG_AUDIO(5:0)
CHSWSTAT
CBUS(3:0)
TXC(2:0)
INT_SIM(5:0)
ACI(1:0)
J2204
J2205
J2206
J2207
J2209
J2210
J2212
J2213
J2214
J2215
J2220
J2221
R2202 0R
R2203 0R
R2204 0R
R2205 0R
L2210 240R/100MHz
L2211 240R/100MHz
L2212 240R/100MHz
L2209 240R/100MHz
R2212 470R
1u0
C2200
EARP
EARN
VANA
VDARx
VDATx
VBAT1
VBAT2
VBAT3
VBATH
VBATCP
C2225 1u0
C2226 1u0
C2227 1u0
C2228 1u0
C2230 1u0
C2231 10U
C2232 1u0
C2223 10n
C2224 10n
PLACE= RETU
TO BE PLACED NEXT TO
CORRESPONDING RETU PINS!! (C3, K2)
VDARx VDATx
C2201 1u0
VBG
VRef
VAna
VAux
VDRAM
VIO
VR1
VRFC
VSIM1
VSIM2
VRCP1
VRCP2
VCP
FlyHigh
FlyLow
C2210
C2211 4u7
C2221
C2222
C2220
C2212
C2213
C2214
C2215
C2219
C2216
C2217
VIO
VDRAM
VAUX
VANA
VREF
EMINT(1:0)
USB_ACI(7:0)
MBusRx
MicData
PURX
RetuInt
SlClk
MBus
RstX
AFC
TxC1
TxC2
L2208 240R/100MHz
TXC_CONV(2:0)
SIM(6:0)
PUSL(7:0)
R2217 33R
C2233 470p
J2216
J2217
J2218
J2219

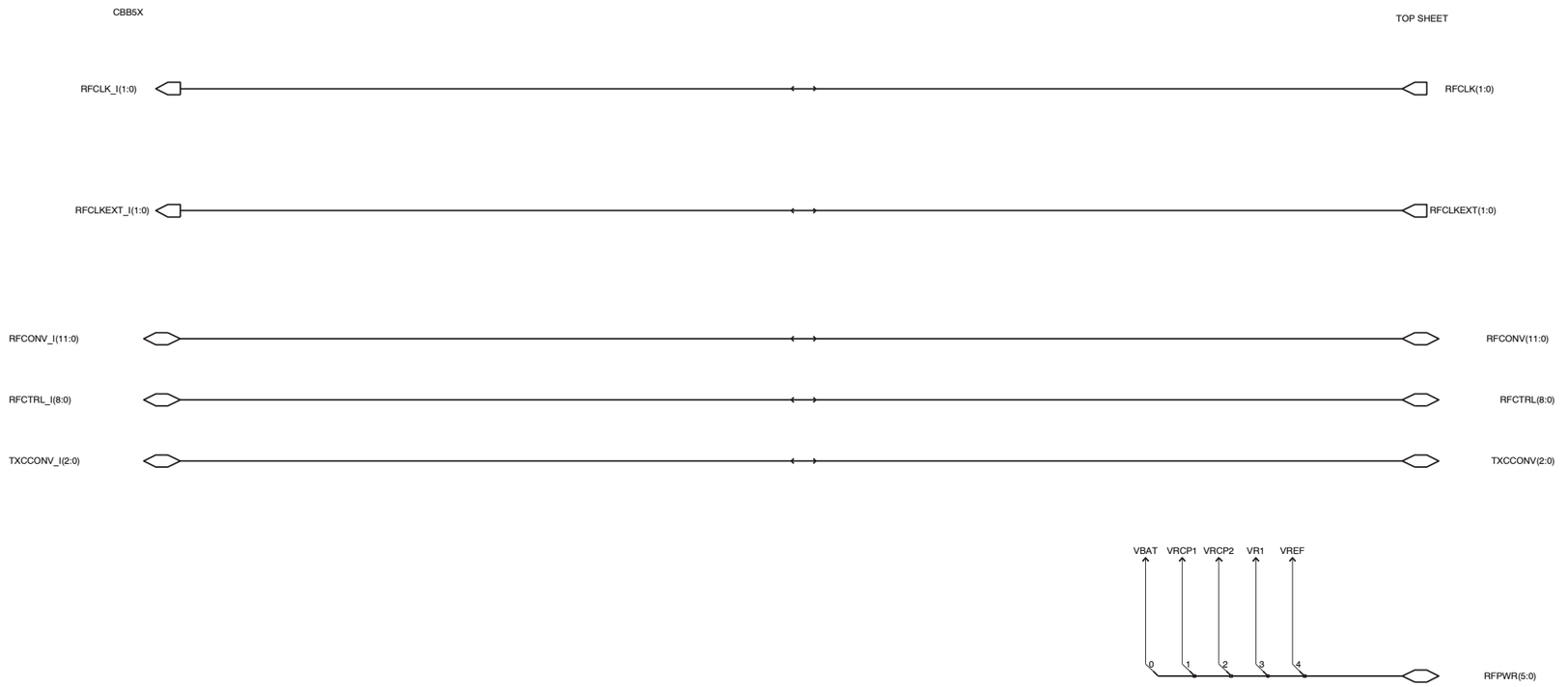

VCORE
VBAT
L2301
220R/100MHz
C2309
22u
GND
C2300
10n
C2301
22u
L2302
10uH
C2302
22u
N2300
TAHVO_V5.2_V5.3_LF
VBAT1
VBAT1
VCoreCoil
VCoreCoil
VCore
GND1
GND1
Slave_PU
Master_PD1
Master_PD2
CLK
RXD2
D+_RXD
D-_TXD
VPP_VIO
VCCint
USB_ACI(7:0)
C2303
1u0
VBAT_N2300-F10
C2306
1u0
CHARGER
VCharIn1
VCharIn2
VCharInK
VCharOut1
VCharOut2
VCharOutK
VIO
C2304
10n
SLOWAD(6:0)
CHSWSTAT
J2300
VCharADC
ChSwS
SMPSClk
GND4
VBAT3
GND3
OEX
FSE0
VO
RCV_FRX2
VP_FRX
VM_CLK
FTX
SLAVESWSET
INTUSB(8:0)
L2306
VBAT_N2300-G9
600R/100MHz
C2307
1u0
NC
NC
RSTX
PURX
SLEEPX
PUSL(7:0)
EMINT(1:0)
TahvoInt
CbusData
CbusSelX
CbusClk
VcoreDef
FlashM
TestMode
TestOut
CBUS(3:0)
GEN_OUT(3:0)
Vout
SENSE+
SENSE-
VCC
VOUT
C2312
1u0
GenOut1
GenOut2
GenOut3
PWM300
Clk600
SleepClk
J2316
PWMTAHVO
SENSE-
SENSE+
VBUS
C2313
1u0
J2308
PLACE = TAHVO
VBAT
600R/100MHz
L2305
VBAT_N2301-B1
na
C2305
1u0
VLEDOUT1
L2304
22uH
N2301
TPS61061YZFR
EN
SW
FB
ILED
OUT
VIN
GND
PGND
SETCURR1
C2315
4u7
C2314
4u7
na
C2317
27p

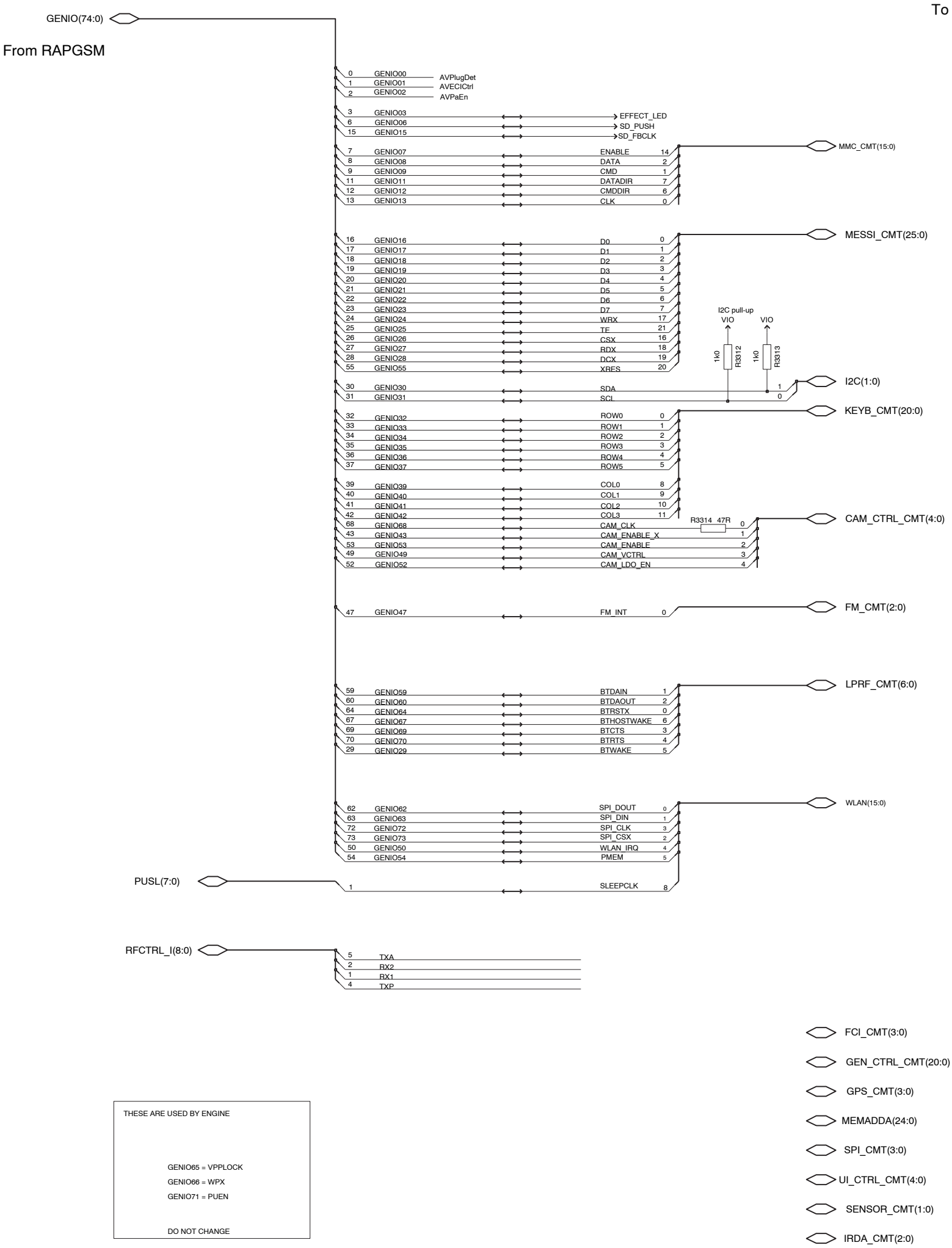

RAP
schematic
RFCLK_I(1:0)
RFCONV_I(11:0)
RFCTRL_I(8:0)
TXC(2:0)
PUSL(7:0)
INT_SIM(5:0)
EMINT(1:0)
DIG_AUDIO(5:0)
CBUS(3:0)
ACI(1:0)
USB_CMT(8:0)
PCM(3:0)
CCP_CMT(3:0)
GENIO(74:0)
SDRAM_AD(15:0)
SDRAM_BA(1:0)
SDRAM_DA(15:0)
SDRAM_CTRL(10:0)
MEMADDA(24:0)
MEMCONT(15:0)
JTAG(6:0)
ETM(16:0)
2800-2899
MEM_CMT
ddr_sdram
NAND(15:0)
MMC(15:0)
3000-3099
A2800
RAP_MEM
SHIELD ASSY
040-025979
GND

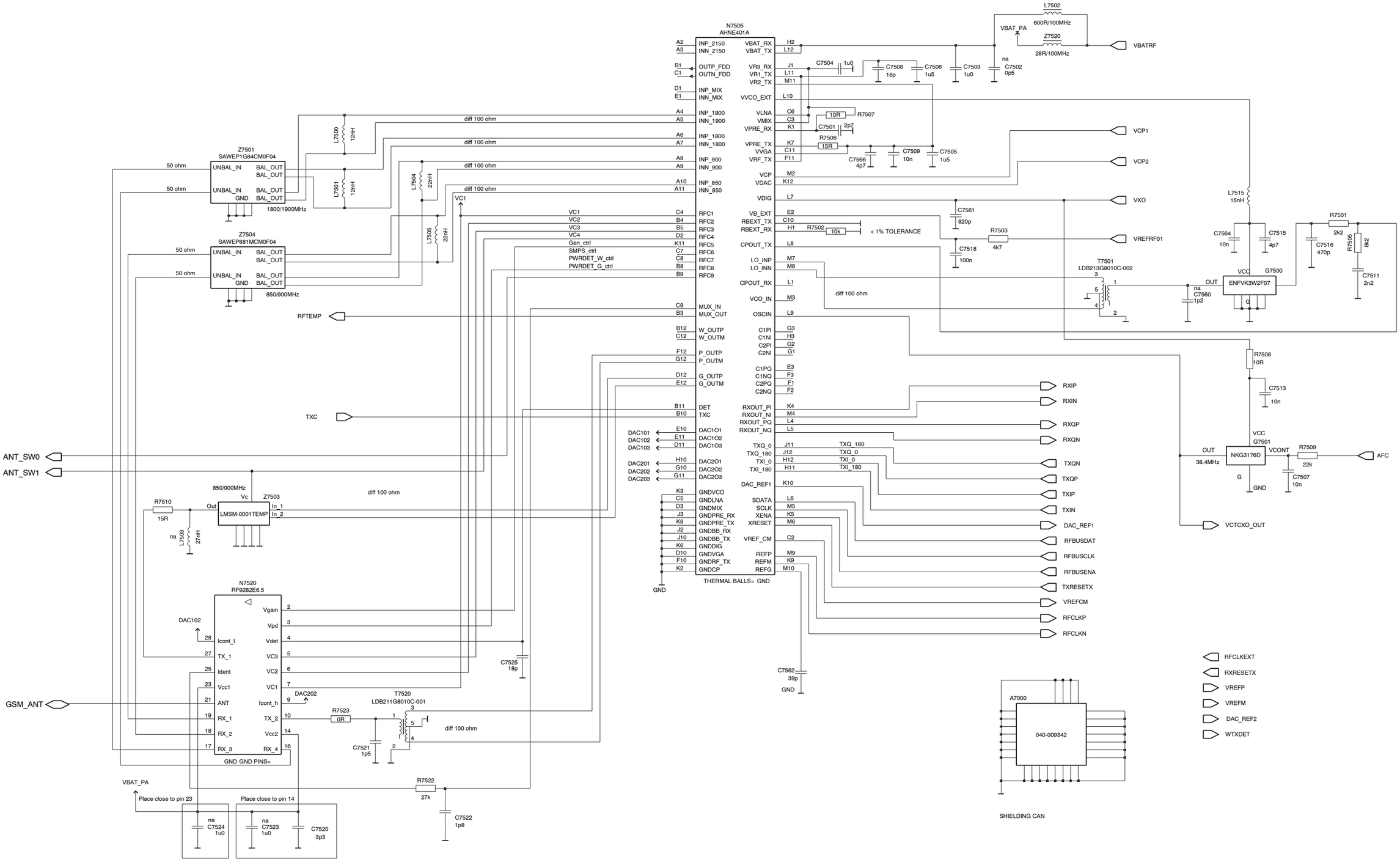

D2800
RAPGSM_V1.1PA
GND
C2831
1p0
RFCLK_I(1:0)
PUSL(7:0)
RFCTRL_I(8:0)
APESleepx to GND if not used (eg. WLAN)
RFCONV_I(11:0)
TXC(2:0)
CBUS(3:0)
ACI(1:0)
DIG_AUDIO(5:0)
RXRESET
PCM(3:0)
USB_CMT(8:0)
PUEN
INT_SIM(5:0)
JTAG(6:0)
ETM(16:0)
EMINT(1:0)
VCORE
VCORE_INT
VIO
VRFC
TMAct
RFClkP
RFClkN
SleepX
SleepClk
PURX
SMPSClk
SysClk
APESleepX
TXReset
TXP
TXA
RX1
RX2
TxIP
TxIN
TXQP
TXQN
RxIP
RxIN
RxQP
RxQN
VrefP
VrefN
Iref1
TxCDa
TxCDaCtrl
TxCClk
CBusClk
CBusDa
CBusEn1X
ACIRx
ACITx
EarDataL
EarDataR
MicData
AudioClk
PMARP
PMARN
RFBusClk
RFBusDa
RFBusEn1X
I2SSCLK
I2SWS
I2SSD1
I2SSD2
USBVP_FRX
USBVM_Clk
USBRCV_FRX2
USBVO
USBFSE0_FTX
USBOEX
USBDSyncClk
SIMClk1
SIMIOCtrl1
SIMIODa1
JTClk
JTrst
JTDI
JTMS
JTDO
EMU0
ETMClk
ETMPkt0
ETMPkt1
ETMPkt2
ETMPkt3
ETMPkt4
ETMPkt5
ETMPkt6
ETMPkt7
ETMSync
ETMPipe0
ETMPipe1
ETMPipe2
ETMSyncB
ETMPipeB0
ETMPipeB1
ETMPipeB2
RetuInt
TahvoInt
VDDDSP1
VDDDSP2
VDDDSP3
VSSDSP1
VSSDSP2
VSSDSP3
VDDMCU1
VDDMCU2
VSSMCU1
VSSMCU2
VDDDLLDCDL
VDDDSP4
VDDCORE1
VDDCORE2
VDDCORE3
VDDCORE4
VDDCORE5
VDDCORE6
VDDCORE7
VDDCORE8
VDDCORE9
VDDCORE10
VDDCORE11
VSSCORE1
VSSCORE2
VSSCORE3
VSSCORE4
VSSCORE5
VSSCORE6
VSSCORE7
VSSCORE8
VSSCORE9
VSSCORE10
VSSCORE11
VSSCORE12
VSSCORE13
VSSCORE14
VDDSIO1
VDDSIO2
VDDSIO3
VDDSIO4
VDDSIO5
VDDSIO6
VDDSIO7
VDDSIO8
VDDSIO9
VDDSIO10
VDDA
VSSA
VDDDPÖÖ
VDDARX
VSSARX
VDDATX
VSSATX
VSSASUB
GENIO0
GENIO1
GENIO2
GENIO3
GENIO4
GENIO5
GENIO6
GENIO7
GENIO8
GENIO9
GENIO10
GENIO11
GENIO12
GENIO13
GENIO14
GENIO15
GENIO16
GENIO17
GENIO18
GENIO19
GENIO20
GENIO21
GENIO22
GENIO23
GENIO24
GENIO25
GENIO26
GENIO27
GENIO28
GENIO29
GENIO30
GENIO31
GENIO32
GENIO33
GENIO34
GENIO35
GENIO36
GENIO37
GENIO38
GENIO39
GENIO40
GENIO41
GENIO42
GENIO43
GENIO44
GENIO45
GENIO46
GENIO47
GENIO48
GENIO49
GENIO50
GENIO51
GENIO52
GENIO53
GENIO54
GENIO55
GENIO56
GENIO57
GENIO58
GENIO59
GENIO60
GENIO61
GENIO62
GENIO63
GENIO64
GENIO65
GENIO66
GENIO67
GENIO68
GENIO69
GENIO70
GENIO71
GENIO72
GENIO73
SpeciallO0
SpeciallO1
SpeciallO2
SpeciallO3
SDRDa0
SDRDa1
SDRDa2
SDRDa3
SDRDa4
SDRDa5
SDRDa6
SDRDa7
SDRDa8
SDRDa9
SDRDa10
SDRDa11
SDRDa12
SDRDa13
SDRDa14
SDRDa15
SDRAd0
SDRAd1
SDRAd2
SDRAd3
SDRAd4
SDRAd5
SDRAd6
SDRAd7
SDRAd8
SDRAd9
SDRAd10
SDRAd11
SDRAd12
SDRAd13
SDRAd14
SDRCLK
SDRCKE
SDRRASX
SDRCASX
SDRWEX
SDRDQML
SDRDQMU
SDRCLKX
SDRLDQS
SDRUDQS
ExtAdDa0
ExtAdDa1
ExtAdDa2
ExtAdDa3
ExtAdDa4
ExtAdDa5
ExtAdDa6
ExtAdDa7
ExtAdDa8
ExtAdDa9
ExtAdDa10
ExtAdDa11
ExtAdDa12
ExtAdDa13
ExtAdDa14
ExtAdDa15
ExtAdDa16
ExtAdDa17
ExtAdDa18
ExtAdDa19
ExtAdDa20
ExtAdDa21
ExtAdDa22
ExtAdDa23
ExtAdDa24
FlsClk
FlsADVX
FlsRSTX
FlsWEX
FlsOEX
FlsCSX
FlsCS2X
FlsWaitX
VPPLOCK
WPX
PUEN
R2803
100R
R2804
100R
CCP_CMT(3:0)
SDRAM_DA(15:0)
SDRAM_AD(15:0)
SDRAM_BA(1:0)
SDRAM_CTRL(10:0)
MEMADDA(24:0)
MEMCONT(15:0)
GENIO(74:0)
PLACE = RAP
Bypass for CPU
C2800 100n
C2801 100n
C2802 100n
C2803 100n
C2804 100n
C2805 100n
C2807 1u0
C2808 100n
C2809 100n
C2810 100n
C2811 100n
C2812 100n
C2813 100n
C2814 100n
C2815 100n
C2816 27p
C2818 100n
C2819 100n
C2820 100n
C2821 27p
na

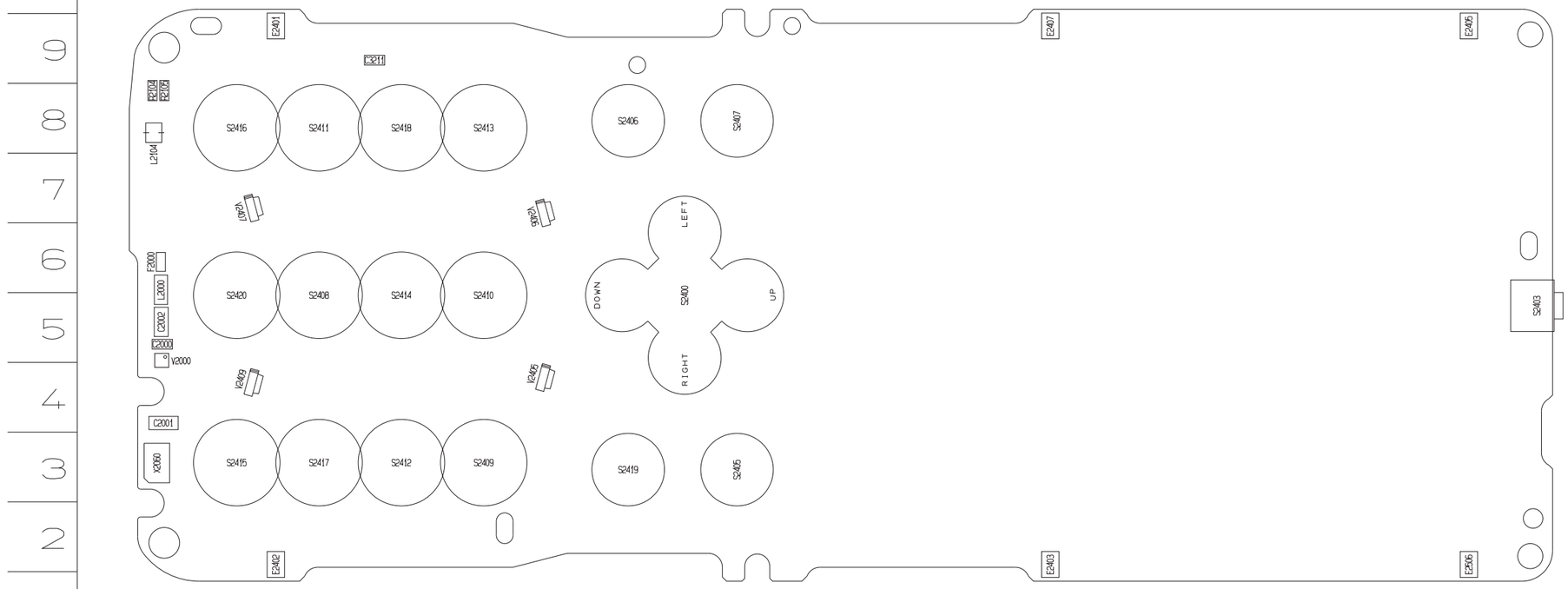

MMC(15:0)
NAND(15:0)
SDRAM_AD(15:0)
SDRAM_CTRL(10:0)
SDRAM_BA(1:0)
MEMADDA(24:0)
MEMCONT(15:0)
SDRAM_DA(15:0)
D3000
S72NSS12PE0AJGLG
COMBO 32Mx16 NOR
16MX16 DDR DRAM
4347652
J3000
J3001
J3002
J3003
J3004
J3005
J3006
Ad
DDR
A1_Index
Ar
NOR
RFU
GND
VIO
VPP
VDRAM
R3000
4k7
R3003
4k7
R3004
4k7
R3002
10R
R3002 for DDR SDRAM
Replace with 0R when SDRAM is used
VCORE_INT
VCORE
Address/Data I/O
NOR
Data I/O
DDR
VDDQ
NOR
Place = D3000
C3001 10n
C3002 100n
C3003 10n
C3004 100n
C3005 100n
C3006 100n
C3007 10n
C3008 100n
C3009 100n
C3000 100n
C3010 100n
C3013 27p
C3014 68p
A8,A9,C1,C8,D14,N3,P8,P11= VDRAM DRAM VDD
A4,B7,B8,B13= VIO DRAM VDDQ
H2,N13= VIO NOR VCC
G12,L12= VIO NOR VCCQ
H1= VPP NOR VPP
A7,B2,C7,C14,M7,N2,P12= GND DRAM VSS
A3,A12,B6,C9= GND DRAM VSSQ
J2,J12,M14,J13,F12= GND NOR VSS


0
1
2
3
5
7
4
6
INTUSB(8:0)
0
1
2
3
5
6
4
USB_CMT(8:0)


CBB5X
TOP SHEET
RFCLK_I(1:0)
RFCLK(1:0)
RFCLKEXT_I(1:0)
RFCLKEXT(1:0)
RFCONV_I(11:0)
RFCONV(11:0)
RFCTRL_I(8:0)
RFCTRL(8:0)
TXCCONV_I(2:0)
TXCCONV(2:0)
VBAT
VRCP1
VRCP2
VR1
VREF
0
1
2
3
4
RFPWR(5:0)


To CMT_IF
GENIO(74:0)
From RAPGSM
0 GENIO00 AVPlugDet
1 GENIO01 AVECICtrl
2 GENIO02 AVPaEn
3 GENIO03 EFFECT_LED
6 GENIO06 SD_PUSH
15 GENIO15 SD_FBCLK
MMC_CMT(15:0)
7 GENIO07 ENABLE 14
8 GENIO08 DATA 2
9 GENIO09 CMD 1
11 GENIO11 DATADIR 7
12 GENIO12 CMDDIR 6
13 GENIO13 CLK 0
MESSI_CMT(25:0)
16 GENIO16 D0 0
17 GENIO17 D1 1
18 GENIO18 D2 2
19 GENIO19 D3 3
20 GENIO20 D4 4
21 GENIO21 D5 5
22 GENIO22 D6 6
23 GENIO23 D7 7
24 GENIO24 WRX 17
25 GENIO25 TF 21
26 GENIO26 CSX 16
27 GENIO27 RDX 18
28 GENIO28 DCX 19
55 GENIO55 XRES 20
I2C pull-up
VIO
VIO
1k0 R3312
1k0 R3313
30 GENIO30 SDA 1
31 GENIO31 SCL 0
I2C(1:0)
KEYB_CMT(20:0)
32 GENIO32 ROW0 0
33 GENIO33 ROW1 1
34 GENIO34 ROW2 2
35 GENIO35 ROW3 3
36 GENIO36 ROW4 4
37 GENIO37 ROW5 5
39 GENIO39 COL0 8
40 GENIO40 COL1 9
41 GENIO41 COL2 10
42 GENIO42 COL3 11
R3314 47R
68 GENIO68 CAM_CLK 0
43 GENIO43 CAM_ENABLE_X 1
53 GENIO53 CAM_ENABLE 2
49 GENIO49 CAM_VCTRL 3
52 GENIO52 CAM_LDO_EN 4
CAM_CTRL_CMT(4:0)
47 GENIO47 FM_INT 0
FM_CMT(2:0)
59 GENIO59 BTDAIN 1
60 GENIO60 BTDAOUT 2
64 GENIO64 BTRSTX 0
67 GENIO67 BTHOSTWAKE 6
69 GENIO69 BTCTS 3
70 GENIO70 BTRTS 4
29 GENIO29 BTWAKE 5
LPRF_CMT(6:0)
62 GENIO62 SPI_DOUT 0
63 GENIO63 SPI_DIN 1
72 GENIO72 SPI_CLK 3
73 GENIO73 SPI_CSX 2
50 GENIO50 WLAN_IRQ 4
54 GENIO54 PMEM 5
WLAN(15:0)
PUSL(7:0)
1 SLEEPCLK 8
RFCTRL_I(8:0)
5 TXA
2 RX2
1 RX1
4 TXP
THESE ARE USED BY ENGINE
GENIO65 = VPPLOCK
GENIO66 = WPX
GENIO71 = PUEN
DO NOT CHANGE
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
GPS_CMT(3:0)
MEMADDA(24:0)
SPI_CMT(3:0)
UI_CTRL_CMT(4:0)
SENSOR_CMT(1:0)
IRDA_CMT(2:0)


N7505
AHNE401A
INP_2150
INN_2150
OUTP_FDD
OUTN_FDD
INP_MIX
INN_MIX
INP_1900
INN_1900
INP_1800
INN_1800
INP_900
INN_900
INP_850
INN_850
RFC1
RFC2
RFC3
RFC4
RFC5
RFC6
RFC7
RFC8
RFC9
MUX_IN
MUX_OUT
W_OUTP
W_OUTM
P_OUTP
P_OUTM
G_OUTP
G_OUTM
DET
TXC
DAC1O1
DAC1O2
DAC1O3
DAC2O1
DAC2O2
DAC2O3
GNDVCO
GNDLNA
GNDMIX
GNDPRE_RX
GNDPRE_TX
GNDBB_RX
GNDBB_TX
GNDDIG
GNDVGA
GNDRF_TX
GNDCP
VBAT_RX
VBAT_TX
VR3_RX
VR1_TX
VR2_TX
VVCO_EXT
VLNA
VMIX
VPRE_RX
VPRE_TX
VVGA
VRF_TX
VCP
VDAC
VDIG
VB_EXT
RBEXT_TX
RBEXT_RX
CPOUT_TX
LO_INP
LO_INN
CPOUT_RX
VCO_IN
OSCIN
C1PI
C1NI
C2PI
C2NI
C1PQ
C1NQ
C2PQ
C2NQ
RXOUT_PI
RXOUT_NI
RXOUT_PQ
RXOUT_NQ
TXQ_0
TXQ_180
TXI_0
TXI_180
DAC_REF1
SDATA
SCLK
XENA
XRESET
VREF_CM
REFP
REFM
REFG
THERMAL BALLS= GND
GND
C7504 1u0
C7508 18p
C7506 1u5
C7503 1u0
na C7502 0p5
L7502 600R/100MHz
VBAT_PA
Z7520 28R/100MHz
VBATRF
R7507 10R
C7501 2p7
R7506 15R
C7566 4p7
C7509 10n
C7505 1u5
VCP1
VCP2
VXO
VREFRF01
C7561 820p
R7502 10k
< 1% TOLERANCE
R7503 4k7
C7518 100n
T7501
LDB213G8010C-002
L7515 15nH
C7564 10n
C7515 4p7
R7501 2k2
C7516 470p
R7505 8k2
C7511 2n2
VCC
G7500
ENFVK3W2F07
OUT
G
na C7560 1p2
diff 100 ohm
R7508 10R
C7513 10n
VCC
G7501
NKG3176D
VCONT
R7509 22k
AFC
38.4MHz
GND
C7507 10n
VCTCXO_OUT
RXIP
RXIN
RXQP
RXQN
TXQN
TXQP
TXIP
TXIN
DAC_REF1
RFBUSDAT
RFBUSCLK
RFBUSENA
TXRESETX
VREFCM
RFCLKP
RFCLKN
C7562 39p
GND
RFCLKEXT
RXRESETX
VREFP
VREFM
DAC_REF2
WTXDET
A7000
040-009342
SHIELDING CAN
Z7501
SAWEP1G84CM0F04
UNBAL_IN
BAL_OUT
GND
1800/1900MHz
50 ohm
L7500 12nH
L7501 12nH
L7504 22nH
L7505 22nH
diff 100 ohm
VC1
Z7504
SAWEP881MCM0F04
850/900MHz
RFTEMP
TXC
ANT_SW0
ANT_SW1
R7510 15R
Z7503
LMSM-0001TEMP
Out
In_1
In_2
Vc
na L7503 27nH
N7520
RF9282E6.5
Vgain
Vpd
Vdet
VC3
VC2
VC1
Icont_h
TX_2
Vcc2
RX_4
Icont_I
TX_1
Ident
Vcc1
ANT
RX_1
RX_2
RX_3
GND GND PINS=
DAC102
DAC202
GSM_ANT
C7525 18p
R7523 0R
C7521 1p5
T7520
LDB211G8010C-001
R7522 27k
C7522 1p8
VBAT_PA
Place close to pin 23
Place close to pin 14
na C7524 1u0
na C7523 1u0
C7520 3p3

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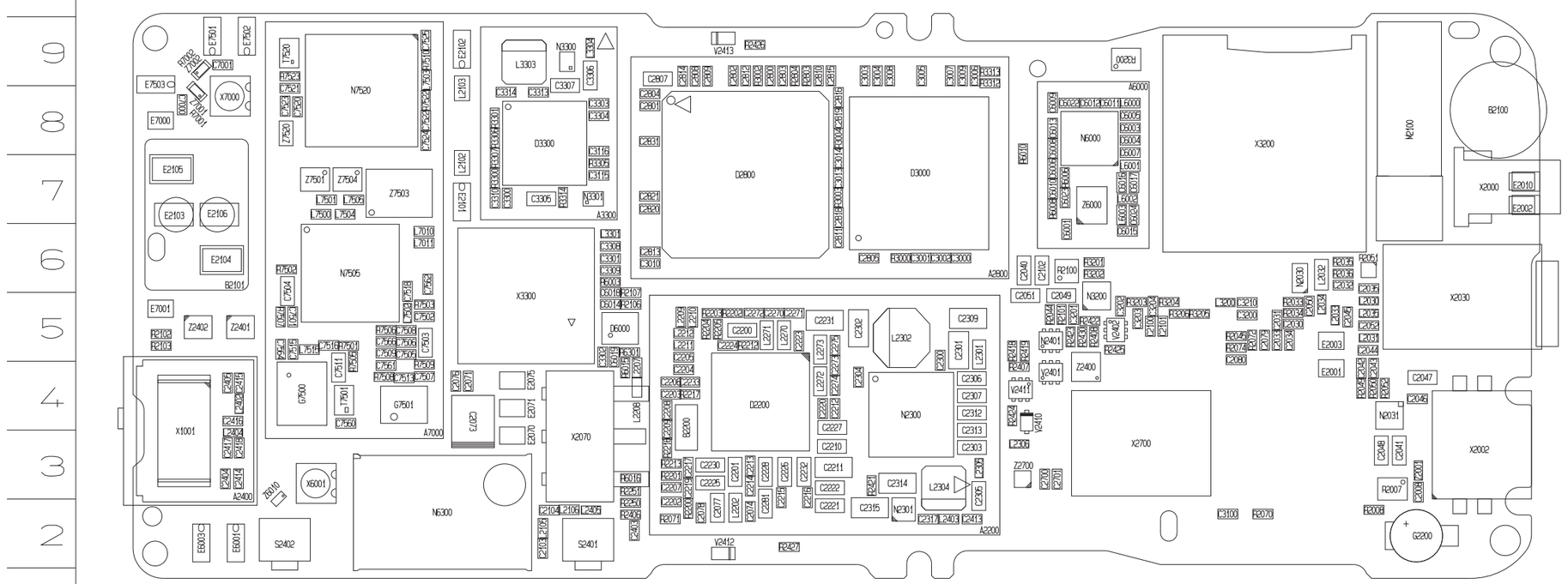
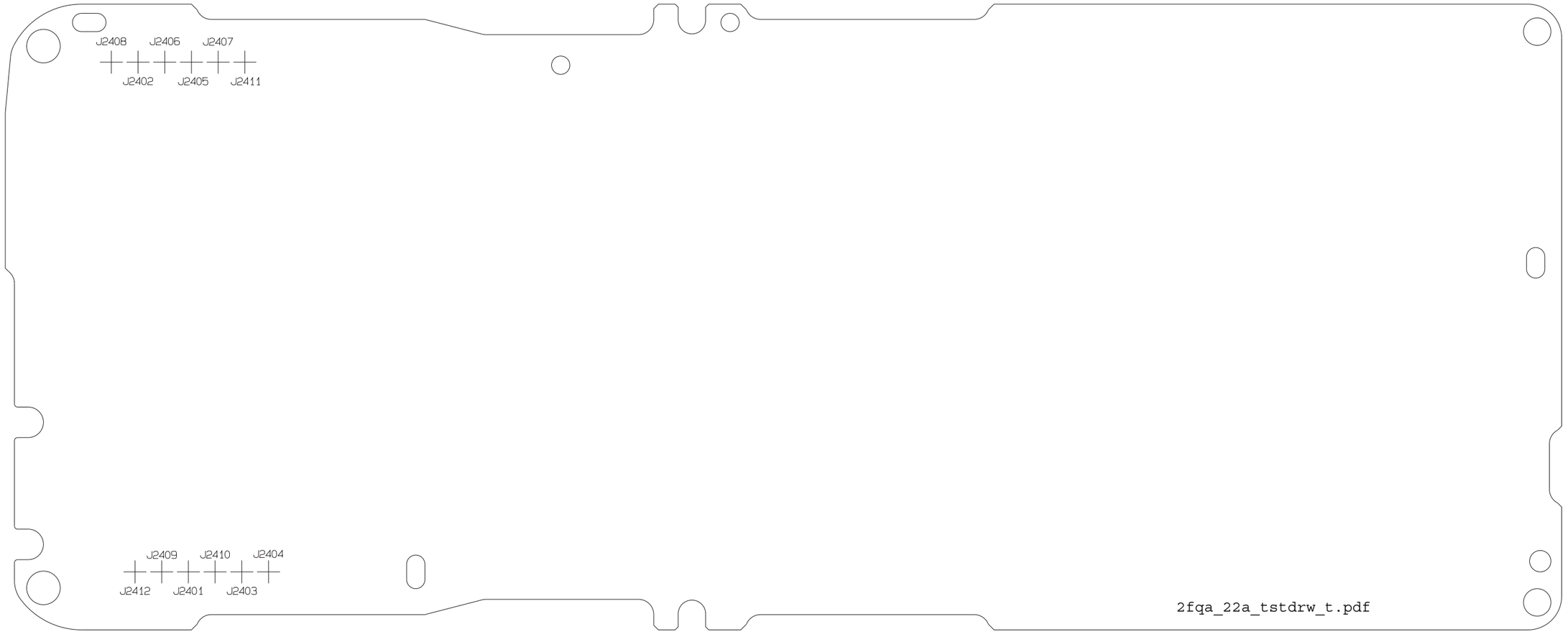

E7501
E7502
E7503
X7000
E7000
E2105
E2103
E2106
E2104
B2101
E7001
Z2402
Z2401
P2102
P2103
X1001
A2400
X6001
E6003
E6001
S2402
N7520
T7520
Z7501
Z7504
Z7503
L7501
L7505
L7500
L7504
N7505
C7504
C7505
C7502
C7503
C7511
G7500
T7501
G7501
A7000
N6300
L3303
N3300
C3307
D3300
C3305
N3301
A3300
X3300
D5000
C2073
X2070
S2402
S2401
V2413
D2800
D3000
A2800
D2200
B2200
N2300
L2302
L2304
A2200
V2412
A6000
N6000
Z6000
X3200
M2100
B2100
X2000
E2010
E2002
X2030
N2030
L2032
E2003
E2001
N2031
X2002
G2200
C2047
C2046
C2048
C2041
C2042
C2043
C2044
C2045
C2051
C2049
N3200
Z2400
V2411
V2410
X2700
Z2700
V2401
P2100
R2200
P2007
P2008
P2070
P2051
P2052
P2053
P2054
P2055
P2056
P2057
P2058
P2059
P2060
P2061
P2062
P2063
P2064
P2065
P2066
P2067
P2068
P2069
P2071
P2072
P2073
P2074
P2075
P2076
P2077
P2078
P2079
P2080
P2081
P2082
P2083
P2084
P2085
P2086
P2087
P2088
P2089
P2090
P2091
P2092
P2093
P2094
P2095
P2096
P2097
P2098
P2099
P2100
P2101
P2102
P2103
P2104
P2105
P2106
P2107
P2108
P2109
P2110


J2408
J2406
J2407
J2402
J2405
J2411
J2409
J2410
J2404
J2412
J2401
J2403
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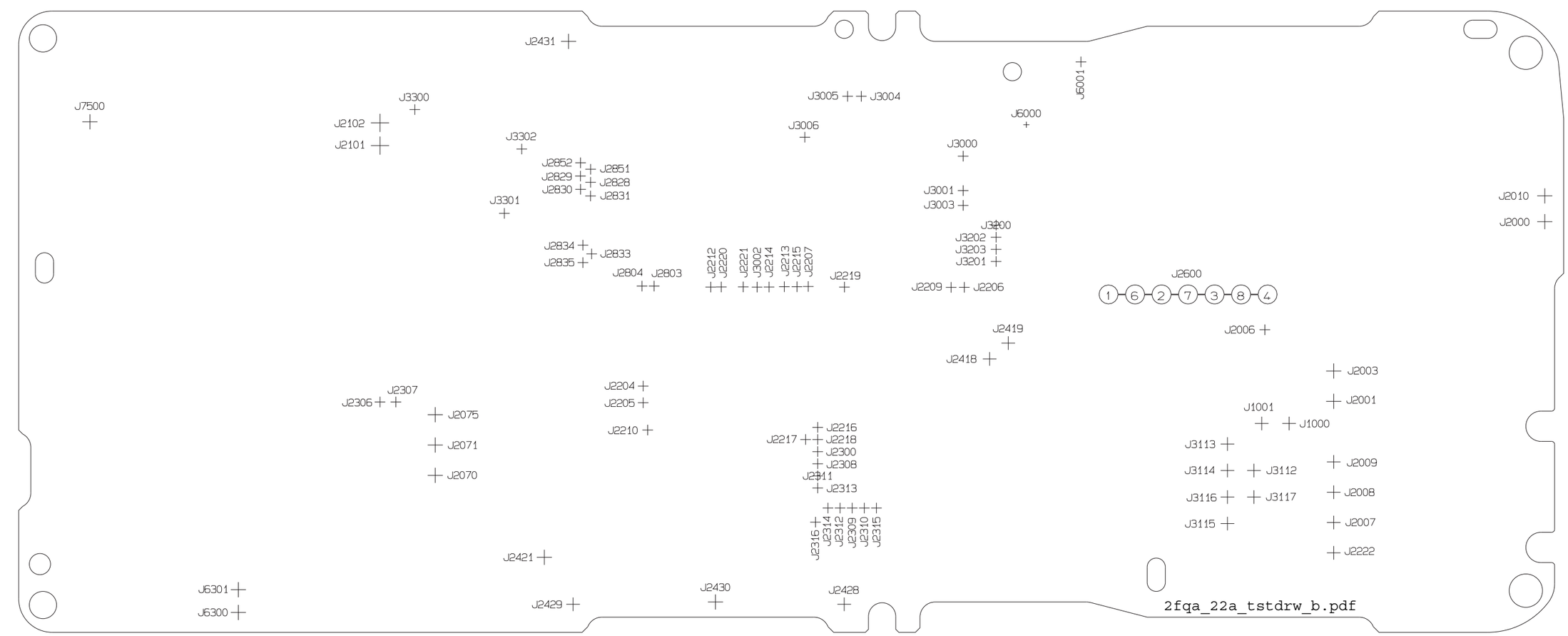
J2431
J7500
J3300
J2102
J2101
J3302
J2852
J2829
J2830
J2851
J2828
J2831
J3301
J2834
J2835
J2833
J2804
J2803
J2212
J2220
J2221
J3002
J2214
J2213
J2215
J2207
J2219
J3005
J3004
J3006
J6001
J6000
J3000
J3001
J3003
J3200
J3202
J3203
J3201
J2209
J2206
J2600
1
6
2
7
3
8
4
J2419
J2418
J2010
J2000
J2006
J2003
J2001
J1001
J1000
J3113
J3114
J3112
J3116
J3117
J3115
J2009
J2008
J2007
J2222
J2204
J2205
J2210
J2307
J2306
J2075
J2071
J2070
J2216
J2217
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J2300
J2308
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J2313
J2316
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J2430
J2428
J6301
J6300
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